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In The

Supreme Court of the United States

NORFOLK SOUTHERN RAILWAY COMPANY,

Petitioner,

v.

DEDRA SHANKLIN, INDIVIDUALLY AND AS NEXT FRIEND OF JESSIE GUY SHANKLIN,

Respondent.

On Writ Of Certiorari To The United States Court Of Appeals For The Sixth Circuit

BRIEF OF THE ANGELS ON TRACK FOUNDATION, THE COALITION FOR SAFER CROSSINGS, ACTIVE PEOPLE AGAINST RAILROAD TRAGEDIES (APART), HANDS ACROSS THE RAILS, RAILWATCH, AND THE NATIONAL ASSOCIATION OF RAILROAD SAFETY CONSULTANTS AND INVESTIGATORS, AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENT

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INTEREST OF *AMICUS CURIAE*

This brief is written on behalf of the following concerned groups: The Angels On Track Foundation a nonprofit corporation. A foundation with the mission of providing financial support to communities to improve railroad crossing safety in the state of Ohio and to provide information to communities on other sources of funding that can be used to improve crossing safety. The Coalition for Safer Crossings, whose goal is to contribute to a higher level of safety at railroad grade crossings. The organization also seeks to provide information to the public on how to prevent accidents at railroad grade crossings before they happen. Active People Against Railroad Tragedies (APART) a nonprofit corporation dedicated to railroad safety whose goals include attaining active warning systems, crossing gates, lights and bells where needed at railroad crossings. Hands Across the Rails a group dedicated to safety whose motto is "Lights and Gates for Fifty States." Railwatch a nonprofit corporation dedicated to educating the public about rail safety and holding the nation's railroads accountable for their dismal safety record. Railwatch is supported by cities, counties, school districts, emergency management districts, local officials, victims of train accidents and their families, shippers and other concerned citizens throughout the United States. The National Association of Railroad Safety Consultants and Investigators a nonprofit corporation. NARSCI is an independent organization of people interested in railroad safety who actively work or consult in railroad safety matters. These groups have agreed to lend their backing to the preparation of this brief because they believe that affirming the Sixth Circuit

will lead to greater safety at railroad grade crossings and encourage the installation of lights and gates at grade crossings.[1]

SUMMARY OF THE ARGUMENT

Lights and gates is undeniably the most effective and cost efficient method of providing crossing safety to the motoring public. Congress, the FRA and the FHWA all acknowledged this fact in the formulation and enactment of the 1973 Federal Highway Safety Act. Therefore, in crafting legislation and regulations, "adequate protection" at hazardous railroad grade crossings was defined as lights and gates. Unfortunately, many of this country's crossings did not even meet the minimum requirements for appropriate signing in the early 1970's. Accordingly, some funding was also made available for "correcting deficiencies" at those crossings that did not have the minimum required signing and pavement markings. The rail industry seized upon the opportunity to use this federal funding program as a conduit to immunize railroads from lawsuits based upon their common law duties to provide reasonably safe crossings. Despite deregulation and the profitability that followed, the industry has adopted a uniform position that railroads will not independently fund the installation of lights and gates. In fact, they

[1] Pursuant to Supreme Court Rule 37.3, letters from the parties consenting to the filing of this brief have been filed with the Clerk of the Court. This brief was funded by *amicus*, Grant L. Davis, Esq., and Thomas C. Jones, Esq., of the Law Offices of Lantz Welch, P.C., and was written entirely by counsel representing the interested parties.

continue to ignore basic sign maintenance so as to qualify for funding of crossbuck replacements. The industry also actively promotes the dissemination of misleading information about the effectiveness of lights and gates.

It is respectfully requested that this Court identify the industry's manipulation of a federal funding program and affirm each state's right to protect its citizens through a case by case application of the time-proven common law.

ARGUMENT

I. LIGHTS AND GATES PROVIDE CROSSING PROTECTION THAT IS 90% EFFECTIVE IN PREVENTING ACCIDENTS.

The effectiveness of lights and gates in the prevention of accidents at railroad crossings has been recognized for over a half a century. One of the first, and most comprehensive, studies of the effectiveness of various warning devices at railroad crossings was conducted by W.J. Hedley, Assistant Chief Engineer of the Wabash Railroad. His study, "The Achievement of Grade Crossing Protection," was originally published in 1949.[2] Hedley's work showed lights and gates to be 96% effective.[3] In

[2] The Achievement of Grade Crossing Protection, W. J. Hedley, Assistant Chief Engineer, Wabash Railroad (1949).

[3] Railroad-Highway Grade Crossing Handbook, Second Edition, FHWA-TW-86-215, Thomas O. Willett, Director, Office of Engineering, Federal Highway Administration, September, 1986 page 104. Appendix 2.

1968, the American Association of State Highway Officials in cooperation with the Bureau of Public Roads published the National Cooperative Highway Research Program Report 50 entitled Factors Influencing Safety at Highway-Rail Grade Crossings.[4] The NCHRP Report 50, reviewed Hedley's study and numerous other studies, including the following:

1. "A Study of Railroad Grade Crossing Protection in Houston (1960);"[5]

2. "Results Accomplished by the Use of the Grade Crossing Protection Fund Established by the Illinois Legislature Beginning September 1, 1955, and Administered by the Illinois Commerce Commission (1965);"[6]

3. "Improved Railroad Crossing Protection and Coordination of Traffic Signals with Train Movements."

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[4] Factors Influencing Safety at Highway-Rail Grade Crossings, David W. Schoppert and Dan W. Hoyt, sponsored by the American Association of State Highway Officials in Cooperation with the Bureau of Public Roads (1968) (NCHRP Report 50) Appendix 1.

[5] A Study of Railroad Grade Crossing Protection in Houston, C. McEachern, Proc. Inst. Traffic Eng., pp. 168-172 (1960).

[6] Results Accomplished by the Use of the Grade Crossing Protection Fund Established by the Illinois Legislature Beginning September 1, 1955, and Administered by the Illinois Commerce Commission, R.B. Thomas, Illinois Commerce Comm. 13 pp. (1965).

4. "Accident Reduction at Crossings Protected Under Crossing Protection Fund (1965);[7]

5. "Traffic Control and Roadway Elements: Their Relationship to Highway Safety (1963);"[8] and the

6. "Effectiveness of Automatic Crossing Gates in Southern California, 1954 Through 1963 (1964)."[9]

NCHRP Report 50 noted that "the ideal protection, disregarding economy, is often said to be grade separation." However, a closer look at accident rates and economies of scale led to the conclusion that "this seems to indicate that grade separation may not be the answer, especially when automatic protection provides a 90% reduction in accidents."[10] In 1986 the Railroad-Highway Grade Crossing Handbook, 2nd Ed.,[11] published by the Federal Highway Administration acknowledged the existence of various studies concerning the effectiveness of lights and gates. Table 34, "Effectiveness of Active

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[7] Accident Reduction at Crossings Protected Under Crossing Protection Fund, California Public Utilities Comm., San Francisco (Aug. 26, 1965).

[8] Traffic Control and Roadway Elements: Their Relationship to Highway Safety, Schoppert, D.W., Automotive Safety Found., pp. 61-64 (1963).

[9] Effectiveness of Automatic Crossing Gates in Southern California, 1954-Through 1963, L.C. Young, California Public Utilities Comm., Los Angeles, 3 pp. (Oct. 1, 1964).

[10] NCHRP Report 50 page 79. Appendix 1.

[11] Railroad-Highway Grade Crossing Handbook, 2nd Ed.

Crossing Warning Devices",[12] contains the results of three of the studies regarding the effectiveness of active warning devices. The average effectiveness of lights and gates at railroad crossings based upon an average of the results of those three studies is 89%. Virtually all credible studies conducted on this issue have confirmed that lights and gates at grade crossings are 90% effective guarding devices for the prevention of accidents. In fact, Clifford Shoemaker, Director of Public Projects for the Union Pacific Railroad who is considered as an expert on the subject in the industry[13], admitted that lights and gates are 90% effective in preventing accidents at railroad crossings.[14]

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[12] pp. 104 of the Railroad-Highway Grade Crossing Handbook, 2nd Ed. Appendix 2.

[13] *In the United States District Court for the Western District of Oklahoma, Brenda Burks, et al. vs. Missouri Pacific Railroad Company et al.*, Case Number CIV-98-204-A, (hereinafter *Burks*) Deposition of Richard Reynolds, taken on October 29, 1998, page 95, line 20 through line 24. Appendix 4.

[14] *Burks*, Volume III of the Deposition of Clifford Shoemaker, taken on December 10, 1998, page 383, line 8 through page 384, line 24. Appendix 6. See also *In the Circuit Court of Jackson County, Missouri at Kansas City, Kimberly R. Alcorn vs. Union Pacific Railroad Company, et al.*, Case Number CV-97-31927,(hereinafter *Alcorn*) Videotaped Deposition of Clifford Shoemaker, taken May 11, 1999, page 11, line 18 through page 12, line 11. Appendix 5.

II. LIGHTS AND GATES PROVIDE THE MOST COST EFFECTIVE CROSSING PROTECTION AVAILABLE.

Two years after NCHRP Report 50 suggested the need for "intensive research" to be conducted on the cost effectiveness of train activated protection (lights and gates) at crossings versus grade separation, Congress adopted the Federal Highway Safety Act of 1970.[15] This legislation marked the beginning of an extensive research project by the Federal Highway Administration and the Federal Railroad Administration culminating in the preparation of two joint reports prepared for consideration by Congress. Those reports were: 1) Report to Congress. Railroad-Highway Safety, Part 1: A Comprehensive Statement of the Problem,[16] and 2) Report to Congress. Railroad-Highway Safety Part II: Recommendations for Resolving the Problem.[17] In the 1971 Report to Congress,[18] the FRA and FWHA analyzed the current problem with accidents at grade crossings. In their economic analysis of safety problems at grade crossings, the FHWA

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[15] Federal Railroad Safety Act of 1970 (FRSA), Pub. L. No. 91-458, 84 Stat. 971, codified as amended at 45 U.S.C. 421 *et seq.*, and the Highway Safety Act of 1973, Pub. L. No. 93-87, 87 Stat. 282, codified as amended at 23 U.S.C. 130.

[16] U.S. Dep't of Transportation, Railroad-Highway Safety Part I: A Comprehensive Statement of the Problem (1971 Report to Congress) PB206792, (Nov., 1971).

[17] U.S. Dep't of Transportation, Railroad-Highway Safety Part II: Recommendations for Resolving the Problem (1972) (1972 Report to Congress), PB 213 115.

[18] 1971 Report to Congress, at Section III, "THE CURRENT PROBLEM," pp. 23-36.

and the FRA made it clear that there are only three types of "warranted improvements" contained in their analysis. Those included 1) new grade separation; 2) reconstruction of existing grade separations; and 3) installation of automatic grade crossing protective devices (lights and gates).[19] In that report, Table 6[20] provides the results of the economic analysis for protective device improvements at grade crossings. That table specifically indicates that the protection improvements include "flashing lights and automatic gates." There is no reference to crossbuck reflectorization programs contained in the economic analysis of "warranted improvements" in this report. The only reference to crossbuck reflectorization programs is a reference that the railroads have a continuing duty to maintain grade crossing protection facilities. The report recognizes that "reflectorization of crossing signs has been an ongoing program for several years."[21] The 1972 Report to Congress included an Executive Summary.[22] The Executive Summary specified that the economic analysis in the report was limited to grade separation structures and flashing lights and automatic gates.[23] The Federal Highway Administration and Federal Railroad Administration unequivocally recommended crossing protection through the installation of lights and gates by stating the following:

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[19] *id.* see page 32.

[20] *id.* at page 35.

[21] *id.* see page 40.

[22] *id.* see page vi.

[23] *id.* see page vi.

> "An economic analysis was used in this study to identify various levels of improvement and to evaluate the reduction in nationwide losses at public grade crossings that would result from each. For purposes of the economic analysis, the types of improvement considered were limited to flashing lights, automatic gates, and grade separation structures.
>
> The cost benefit analysis indicates that grade crossing protection will return both greater overall benefits and much greater safety benefits for a given level of investment than will grade separation. Accordingly, any new federal initiative should concentrate on grade crossing protection, while grade separations and similar elimination-type projects should continue to be included in other highway programs."

Chapter X, "PUBLIC GRADE CROSSING IMPROVEMENT NEEDS," in the 1972 Report to Congress II,[24] contains the economic analysis of federal funding for grade crossing improvements. That economic analysis is limited to grade separation and crossing improvements that include flashing lights and automatic gates. The 1972 Report specifically indicates that it was not "possible to include in the economic analysis other possible types of improvements such as passive device improvements."[25] The entire discussion of "passive device improvements" is contained in one paragraph on page 90 of the 1972 Report. That one paragraph reads as follows:

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[24] *id.* pages 74-92.

[25] *id.* page 75.

It is not possible at this time to make a benefit-cost analysis of improved passive devices, such as pavement markings and signing at and in advance of the crossing. The inventory conducted for this study indicated that there are 11,365 crossings at which there are no signs. In addition, it is known that there are many crossings that have a crossbuck sign on only one highway approach. The inventory did not record those crossings with missing or otherwise deficient advance warning signs. As a first step in improving grade crossing safety, each railroad and each responsible public agency which does not already have one should undertake a program of passive device improvement. Such programs should also include the removal of obstacles from the crossing quadrants, i.e., those which impair visibility, to improve safety. The estimated cost to correct these deficiencies in passive signing and markings alone may be on the order of $10 million.

The analysis of "passive device improvements" such as crossbuck reflectorization programs was limited to one paragraph out of the two reports submitted to Congress in 1971 and 1972. In that one paragraph, the Federal Railroad Administration and Federal Highway Administration limited the discussion to such passive device improvement programs which are necessary to correct "deficiencies in passive signings and markings." The conclusion concerning the analysis of crossing improvement needs in Chapter X in Report II is as follows:

> Any new initiative should concentrate on grade crossing protection while grade separations and similar elimination-type projects should continue to be included in other highway programs. For a given level of investment much greater safety benefit can be obtained from a program of grade crossing protection than from a program including both protection and elimination of crossings by grade separations and the like. The ratio of benefits to costs for a given level of investment is much greater for protection than for grade separations and the initial cost of protection is much less than the initial cost of grade separations.

That conclusion went on to clarify that expenditures for other improvements such as "passive device improvement" should be undertaken by the public agencies and the railroads to make sure that all crossings meet the minimum requirements of MUTCD. After considering the reports to Congress the Highway Safety Act of 1973 was passed.

III. 23 C.F.R. § 646.214(b)(3) DEFINES "ADEQUATE CROSSING PROTECTION" AS LIGHTS AND GATES

If certain potentially hazardous conditions exist at any given crossing, the installation of lights and gates is mandated. 23 C.F.R. § 646.214(b)(3)(i) defines "adequate warning devices" as devices which include "automatic gates with flashing light signals." 23 C.F.R. § 646.214(b)(3)(ii) provides that *gates* may not be necessary if a diagnostic team justifies that "gates are not appropriate." Nothing in 23 C.F.R. § 646.214(b)(3) indicates that something less than flashing lights could ever meet the definition of "adequate warning devices." In recent years, most of the installations of active warning

devices at crossings include lights and gates.[26] The reason for the inclusion of automatic gates with an active installation is obvious. It only costs about $15,000 to add gates to an active installation that railroads are currently installing for somewhere in the neighborhood of $150,000.[27] The effectiveness of gates added to a lights-only installation is also verified in the Railroad-Highway Grade Crossing Handbook.[28] The addition of relatively low-cost gates to a flashing lights installation increases the installation's effectiveness by 67%.[29] Obviously, the expenditure of an additional $15,000 to make an active warning installation 67% more effective is clearly a wise expenditure. The cost of this increased effectiveness is 10% of the entire installation.

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[26] *Alcorn*, Videotaped Deposition of Clifford Shoemaker, taken May 11, 1999, page 19, lines 11-15, and page 20, lines 9-17. Appendix 5.

[27] *In the District Court of Caddo County, State of Oklahoma, Steve and Violet Myers, et al. v. Missouri Pacific Railroad Company et al.*, Case Number CJ-97-46, (hereinafter *Myers*) Deposition of Clifford Shoemaker taken on April 1, 1999, page 40 line 19, Appendix 8. *Burks*, Volume I of the Deposition of Clifford Shoemaker, taken on November 12, 1998, page 29 line 18, Appendix 6. Report of Harvey Levine, Ph.D. submitted in *State Of Minnesota, In The District Court Of Polk County, Ninth Judicial District, Toni Weaver, et al. v. Burlington Northern Santa Fe Corporation, et al.*, Case No. C9-99-22 (hereinafter *Weaver*). Appendix 10.

[28] See Railroad-Highway Grade Crossing Handbook, 2nd Ed., page 104, Table 34, Appendix 2.

[29] That is the average of the three studies referenced in the Railroad Grade Crossing Handbook, 2nd Ed., Appendix 2.

The railroad industry has attempted to bootleg "passive protection improvements" into the definition of "adequate warning devices" under 23 C.F.R. § 646.214(b)(3)(i) in an attempt to immunize railroads from liability under the banner of federal preemption. That position is not supported by the legislative history, interpretation of the regulation itself, nor the Federal Highway Administration's implementation of the Federal Highway Safety Act.

According to Wm. H. Wendling a former official of the Federal Highway Administration, the FHWA's crossbuck program was separate and distinct from programs to erect lights and gates. Crossbucks only provided minimum protection as mandated by law at all crossings as opposed to a determination of adequate protection at an individual crossing.[30] Judge Posner reached the same conclusion in *Shots v. CSX Transportation, Inc.*, 38 F.3d 304 (7th Cir. 1994). He noted that the Secretary of Transportation would have engaged in an "extraordinary act of irresponsibility" if he precluded liability by providing funds for minimum protection without determining what adequate protection was at an individual crossing.[31] Mr. Wendling's affidavit confirms that the Secretary was acting responsibly in his treatment of the crossbuck program.

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[30] William H. Wendling Affidavit submitted in *In the Circuit Court of Jackson County, Missouri, at Kansas City, Mark Griffin, et al. vs. Kansas City Southern Railway*. Case No. CV93-26148. (Wendling Affidavit) Appendix 18.

[31] *Shots* at 309.

As mentioned in the previous section, "passive device improvement" was included in the 1972 Report to Congress II only as an indication that many crossings needed programs that were designed to correct "deficiencies in passive signings and markings." 23 C.F.R. § 646.214(b)(4) allows the FHWA approval over any federal expenditures for such passive device improvements. The legislative history of the Federal Highway Safety Act of 1973 makes it clear that Congress intended to have appropriate signage at all 170,000 passive crossings. Congress had already targeted 29,000 of those 170,000 passive crossings for upgrading to "train actuated protection" as recommended in the 1971 Report to Congress.[32] The numbers referenced in the legislative history makes it clear that the massive signage programs designed for "passive device improvement" was intended to establish minimum compliance for all passive crossings and that at least 29,000 of those passive crossings were also targeted to be upgraded with lights and gates. As further confirmation of this fact, the Federal Highway Administration published the Federal Aid Highway Program Manual.[33] The manual specified that the first priority under the new Highway Safety Act of 1973 required "as a minimum" the states and railroads needed to "institute an improvement program to provide signing and pavement markings in

[32] Federal-Aid Highway Act of 1973, Legislative History p. 1892. Appendix 19.

[33] United States Department of Transportation, Federal Aid Highway Program Manual. (Attached as exhibit 1 to the Wendling Affidavit) Appendix 18.

compliance with the Manual on Uniform Traffic Control Devices at all grade crossings."[34]

The issue on whether compliance with the MUTCD can rise to the level of federal preemption has already been answered in *CSX Transp., Inc. v. Easterwood*, 507 U.S. 658, 669 (1993) wherein the court rejected the notion that compliance with the MUTCD somehow gave rise to federal preemption of any claims based upon the adequacy of grade crossing protection devices. "The MUTCD provides a description of, rather than a prescription for, the allocation of responsibility for grade crossing safety between the Federal and State Governments and between States and railroads."[35] 23 C.F.R. § 646.214(b)(4) and the Federal Highway Administration's characterization of these projects as being designed to obtain minimal compliance with the MUTCD is totally consistent with the 1972 Report to Congress. The report, the regulation and the implementation all address the need for "correcting deficiencies" in passive devices at thousands of railroad crossings. The lack of any cost-benefit analysis on those projects further supports the conclusion that such "passive devices improvements" were intended solely to bring all crossings into minimal compliance with the MUTCD.[36]

[34] *id.* at Vol. 6, Chap. 8, Sec. 2, p. 6. Appendix 18.

[35] *id.* at 669.

[36] See page 75 Report to Congress II.

IV. INSTALLATION OF LIGHTS AND GATES HAS BEEN AN AFFORDABLE OPTION AVAILABLE FOR THE FOUR LARGEST RAILROADS IN THE UNITED STATES SINCE 1980.

Harvey Levine was the prior Vice President of Economics for the Association of American Railroads. He spent eighteen years with the Association of American Railroads working on economic policy and economic analysis for the railroad industry.[37] After retiring from his work for the Association of American Railroads, Harvey Levine's interest in crossing safety led him to analyze grade crossing policies of the country's major railroads. Levine's analysis of the Union Pacific Railroad,[38] the Burlington Northern Santa Fe Railroad Company[39] and the Norfolk Southern[40] are contained at Appendix 9, 10, and 11. These railroads and the CSX are the four "mega railroads" which now account for 95% of the industry's traffic.[41] The economic decisions of these "mega railroads" reveal a clear industry-wide choice to prefer short-term profits to crossing safety. One of the purposes of the

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[37] Attachment 1 to the report of Harvey Levine, Ph.D. submitted in *Alcorn* and attached as Exhibit 5 to the Deposition of Harvey Levine, Ph.D. taken on August 17, 1999. Appendix 9.

[38] *id.*

[39] Report of Harvey Levine, Ph.D. Appendix 10.

[40] Report of Harvey Levine, Ph.D. submitted in *In the United States District Court For the Western District of Tennessee Eastern Division, Dwayne E. Mitchell v. Rickey D. Kelley, et al., Western Division, Defendants*, Case No. 93-1220 T (hereinafter *Mitchell*). Appendix 11.

[41] Harvey Levine, Ph.D., The Other Side of Staggers, Traffic World, Vol. 260, No. 9, page 35 (Nov. 29, 1999). Appendix 12.

Staggers Act,[42] which deregulated the industry, was to increase the profitability of the railroads so that they could better maintain and improve their infrastructure, which, in turn, would increase public safety.[43] However, the "mega railroads" Harvey Levine reviewed were already very profitable prior to deregulation and then became even more profitable following deregulation. Despite the enormous profits generated by deregulation, these railroads refused to independently fund crossing safety improvement programs. The railroads' unified position contravened one of Congress's fundamental motivations for passing legislation to deregulate the industry.[44] The American public, who was to benefit from Staggers, has not seen additional expenditures of railroad income on crossing safety.

Conclusions similar to Levine's can be drawn from a review of *CSX Transportation, Inc. v. Palank*, 743 So. 2d 556 (Fla. App. 1999). In that case, the Florida Court of Appeals upheld a punitive damage award of $50,000,000 based upon the conscious decisions of CSX to divert over two billion dollars ($2,000,000,000) from safety and maintenance expenditures to maximize corporate profit and extend the railroad's market share.[45] Harvey Levine's analysis of the other three "mega railroads" reveals the

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[42] Staggers Rail Act of 1980, Public Law 96-448, 96th Congress, 49 USC 10101, October 14, 1980.

[43] Report of Harvey Levine Ph.D. on BNSF submitted in *Weaver*, page 3. Appendix 10.

[44] BNSF report Appendix 10; UP report Appendix 9; NS report Appendix 11.

[45] *Palank* at 560 and 564.

same conscious decision-making. In fact, a jury in Jackson County, Missouri recently assessed $120,000,000 in punitive damages for this same conscious disregard for crossing safety.[46] The 1971 Report to Congress contains an extensive history of legal responsibilities for financing grade crossing safety improvements at Appendix 1 of that report. A review of that Appendix clearly establishes that states and railroads both have financial responsibilities for crossing safety.[47] The concept of joint responsibilities was confirmed in *Easterwood*.[48] In 1978, the first edition of the Railroad Grade Crossing Handbook clearly provided that:

> "Financial conditions of some major railroads is such that their interest in grade crossing improvements is maintained. It may be expected that as the financial condition of an individual railroad deteriorates or improves, the company's commitment to grade crossing improvement financing will change. Therefore, no single generalized statement applies to all railroads' ability to or interest in participating in grade crossing improvements."[49]

In spite of record profits and growth, the four mega railroads that now exist in the United States have elected

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[46] *Alcorn v. Union Pacific Railroad Co.*, In the Circuit Court of Jackson County, Missouri at Kansas City, Case No. CV 97-31927, Div. 10.

[47] See Appendix 1 of the 1971 Report to Congress.

[48] *Easterwood* at 669.

[49] Railroad-Highway Grade Crossing Handbook, FHWA-TS-78-214, Dr. R. M. Olson, Federal Highway Administration, August 1978 p.67. Appendix 3.

to not spend any of their funds on independent programs for grade crossing safety improvements.

V. THE RAILROAD INDUSTRY MADE A KNOWING AND INTELLIGENT DECISION TO OPT FOR SHORT-TERM PROFITS BY IGNORING ALL STATE COMMON LAW DUTIES TO UPGRADE RAILROAD CROSSINGS.

In 1989, the National Association of Railroad Trial Counsel Executive Committee formed a "Special Advisory Committee on Grade Crossing Litigation."[50] The purpose of that committee was to establish a preemption defense to *all* claims that railroads have a duty to provide any additional grade crossing warning devices. The work of this committee was financed by the financial backing of the Burlington Northern Railroad; the Santa Fe Railroad Company, Norfolk Southern Railroad, the Union Pacific Railroad Company, the Southern Pacific Railroad and the CSX.[51] The committee prepared a model brief that was intended to "overturn the longstanding law in many states that allocate the duty and responsibility for

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[50] Memo of Stephen Trimble addressed to all NARTC members dated March 26, 1990 attached as an exhibit to Plaintiffs' response to Defendants' Motion for Summary Judgment in *Weaver*. Appendix 13.

[51] See Letter to Stephen Trimble, dated April 17, 1990. Mr. Trimble was the Chairman of the Special Advisory Committee on Grade Crossing Litigation. The letter was also sent to Henry Moffett, Head of the National Association of Railroad Trial Counsel (NARTC). Appendix 14. See Affidavit of Merrick C. Walton in *In the District Court of Labette County, Kansas, Miika M. Monohon, et al., vs. Union Pacific Railroad Co.*, Case No. 98-C-27-OS. Appendix 15.

grade crossing safety to the railroads."[52] Shortly after the dissemination of the model brief, it became obvious that members of the National Association of Railroad Trial Counsel began shopping for "good facts and good judges who are receptive to preemption arguments."[53]

The Union Pacific Railroad has a specific policy which emphasizes that the Union Pacific Railroad will not independently fund grade crossing improvement programs which upgrade crossings to include lights and gates.[54] The Burlington Northern Santa Fe Railroad Company has had a similar policy in effect for years.[55]

The refusal of major railroads to finance crossing improvement projects is not unique to the Union Pacific Railroad nor the Burlington Northern Santa Fe Railroad Company. In fact, all four of the largest railroads in the United States participate in the Operation Lifesaver, Inc. program. That program holds itself out as an independent public information program dedicated to reducing

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[52] Memo of Stephen Trimble addressed to all NARTC members dated March 26, 1990. Appendix 13.

[53] Letter to Stephen Trimble dated April 17, 1990. Appendix 14.

[54] See Union Pacific Railroad Grade Crossing Resource Manual Chapter 6, Section C page V-C-1 and V-C-2, exhibit 4 of Richard Reynolds deposition in *Burks*, Deposition of Richard Reynolds, taken on October 29, 1998, page 137, line 23-25, page 138, line 1-24, page 141, lines 17-25, page 142, lines 1-17, page 143, lines 23-25, page 144, lines 1-7, page 147, lines 19-23. Appendix 4.

[55] See Affidavit of Robert A. Schuetze, Esquire attached as an exhibit to Plaintiffs' response to Defendants' Motion for Summary Judgment in *Weaver*. Appendix 21.

crossing accidents. However, Operation Lifesaver, Inc. is governed by an eleven-member Board of Directors[56] who are "financially, legally and ethically responsible for all activities of the corporation."[57] That eleven-member board is comprised of personnel associated with the rail industry with the exception of one member.[58] Operation Lifesaver's Position Statement reads as follows:

> To enhance highway-rail grade crossing safety, Operation Lifesaver, Inc. endorses the concept of reducing the number of crossings through consolidation, elimination, grade separation and restricting the number of new crossings.

Conspicuously missing from the Position Statement of Operation Lifesaver, Inc. is the support for the installation of lights and gates at grade crossings. The most cost-effective means of crossing protection endorsed by the FRA and FHWA is not endorsed by the industry's "public education program." In fact, Operation Lifesaver, Inc. teaches its presenters to **NEVER** refer to a crossing as "protected" or "unprotected" or "guarded" or "unguarded" because "this implies that crossings with gates, lights and bells somehow protects the motorist when in fact they are merely warning devices that are too

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[56] See Operation Lifesaver, Inc., Hand-out Section 3 attached as an exhibit to Plaintiffs' response to Defendants' Motion for Summary Judgment in *Weaver*. Appendix 16.

[57] *id.* Appendix 8 and 16.

[58] *Myers*, Deposition of Clifford Shoemaker taken on April 1, 1999, pages 59-61. Appendix 8.

often disregarded."[59] The program stresses that Operation Lifesaver, Inc. presenters are not spokespersons for Operation Lifesaver, Inc. and that they should avoid specific questions about rail policy and technology. However, when they are asked, "why aren't there gates and lights at every crossing," the following response is suggested:

> Most people think that gates and lights are the answer to preventing tragedies at grade crossings. Unfortunately, these active warning devices often are not enough because drivers sometimes choose to disregard them; in fact, over half of all grade crossing crashes at public crossings occur where active warning devices (gates, lights, bells) exist.

This scripted response is clearly misleading because it answers a specific question about *lights and gates* with statistics that include all active warning devices including antiquated systems that are in excess of fifty years old. In reality, Clifford Shoemaker, one of the board members of Operation Lifesaver, Inc.,[60] admits that only about 20% of all accidents occur at crossings with lights and gates despite the fact that 85% of the traffic encounters between cars and trains occur at those crossings.[61] Operation

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[59] See Operation Lifesaver, Inc., Hand-out Section 3. Appendix 16.

[60] *Myers*, Deposition of Clifford Shoemaker taken on April 1, 1999, page 59. Appendix 8.

[61] *Myers*, Deposition of Clifford Shoemaker taken on April 1, 1999, page 146 and *In The District Court Of Canadian County, State Of Oklahoma, Brenda and Eugene Spence, et al. vs. Missouri Pacific Railroad Company et al.*, Case No. No. CJ-97-1-01 (hereinafter *Spence*) Deposition of Clifford Shoemaker taken on October 21, 1999, page 159. Appendix 8 and 7.

Lifesaver, Inc. presenters are specifically advised to teli the public that "flashing red lights and gates don't eliminate collisions, either."[62] This industry "public education" program is misleading at best, if not a totally fraudulent misrepresentation of the facts.

The "public education" program of Operation Lifesaver, Inc. adopts the industry's position that it is entirely the government's responsibility to place lights and gates at grade crossings.[63] That position mirrors the position of the National Association of Railroad Trial Counsel, but totally ignores the holding in *Easterwood*, which rejected this blanket preemption argument.

VI. RAILROADS SHOULD NOT BE GIVEN THE POWER TO CREATE THEIR OWN PREEMPTION DEFENSE BY MANIPULATING THE FEDERAL FUNDING PROGRAM.

It has been noted that the installation of lights and gates by major railroads (Class 1 railroads) using limited federal funds are characterized by unreasonable delays and excessively high costs.[64] It has also been suggested

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[62] Operation Lifesaver, Inc. Presenters' Manual, Section 3. Appendix 16.

[63] Operation Lifesaver, Inc., Hand-out Section 3. Appendix 16.

[64] Gregory A. Malkasian, *Regulatory Issues – Crossing Safety in Oregon*, Published in Proceedings of the International Symposium on Railroad-Highway Grade Crossing Research and Safety 1990 in Knoxville, Tennessee. Appendix 17. See also *St. Louis Southwestern R.R., Co. v. Malone Freight Lines, Inc.*, 39 F.3d 864 (8th Cir. 1994) (referencing a fifteen month delay in the erection of lights and gates).

that federal funds which could be used for the installation of lights and gates are too frequently diverted to other projects which have the net result of lessening the number of lights and gates which can be installed under the federal funding program.[65] The Union Pacific Railroad admittedly uses federal funding to supplement its maintenance budget by applying for funding of crossbuck replacements, lens replacement programs and crossing surface improvement programs.[66] These expenditures would otherwise be ordinary expenses that should come out of the railroad maintenance budget.[67] The Union Pacific Railroad is not alone in this methodology of utilizing federal funds to supplement their own maintenance budget. The Burlington Northern Santa Fe Railroad Company openly admits that they do not do anything to inspect crossbucks to determine when they have exceeded their useful life.[68] They do not even attempt to maintain the reflective qualities on their crossbucks. In fact, the Burlington Northern Santa Fe Railroad Company waits for the state to determine that the crossbucks have fallen into such a state of disrepair that they no longer

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[65] id. at 63. Appendix 17.

[66] *Burks*, Volume II of the Deposition of Clifford Shoemaker, taken on December 9, 1998, pages 314-319. Appendix 6.

[67] *id.* Appendix 6.

[68] *In The District Court Of Pierce County, North Dakota, Gene Graumann, et al., vs. Burlington Northern Santa Fe Corporation, et al.*, Case No. 98-C-2020, Deposition of Spencer Arndt taken on July 15, 1999 page 81, lines 12-21, page 86 lines 5-15, pages 93-95, and pages 107-108. Appendix 20.

comply with the MUTCD as "reflectorized."[69] By waiting for an entire rail corridor to become a legally deficient safety hazard, the railroad qualifies for federal funding to replace all crossbucks in that corridor.[70]

Despite record profits recognized from operating revenues, the major railroads still refuse to participate in research and development costs as recommended in the 1972 Report to Congress.[71] They refuse to use competitive bidding to bring down the costs of installing lights and gates and further refuse to supplement the federal spending programs with any of their own profits. By diverting funds that could otherwise be used for lights and gates, the railroads are also effectively diluting the overall effectiveness of the federal lights and gates program. Current practices allow the major railroads to divert funds from lights and gates installations, use their own forces to install lights and gates at unreasonably high prices, create excessive delays in installation so that funds are subject to being more readily diverted and refuse to supplement the federal program with any of their own funds. These industry practices have impeded the installation of lights and gates. At the current rate, it will take in excess of One Hundred Years to provide lights and gates at all crossings in Tennessee.[72] Impeding the installation of the most cost-

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[69] *id.* Appendix 20.

[70] *id.* Appendix 20.

[71] See page 68 Report to Congress II. *Burks*, Volume II of the Deposition of Clifford Shoemaker, taken on December 9, 1998, pages 201-203, and 219. Appendix 6.

[72] Report of Harvey Levine, Ph.D. in *Mitchell*. Appendix 11.

effective form of crossing protection has never been one of the goals of Congress or the FHWA.

Manipulation of the federal funding program is simple. Any railroad can ignore sign maintenance until passive signs exceed their useful life and become noncompliant with the Manual on Uniform Traffic Control Devices. The reward for this intentional neglect of sign maintenance is the receipt of federal funding to supplement your maintenance budget. The added bonus for such conduct is the potential for gaining immunity from being sued for your intentional decision to ignore your common law duty to upgrade crossings.

Now that virtually every crossing in the United States has obtained some type of passive warning sign funded with federal money intended to "correct deficiencies" at crossings, the railroads have almost completed their plan to gain blanket immunity for their election to ignore common law duties. The last step remaining is for the United States Supreme Court to accept the industry's argument that all state law claims of inadequate warning devices at all railroad crossings are preempted by the use of federal funds used to make those crossings meet minimum compliance standards of the MUTCD. This brief is offered in support of those safety organizations and victims' groups who respectfully request this Court to thwart the industry's plan to obtain blanket immunity.

CONCLUSION

On behalf of the crossing safety organizations and victims groups joining in this brief, it is requested that the United States District Court for the 6th Circuit Court of Appeals Decision be affirmed. Affirming the Court of Appeals would do the following:

1. add confirmation that adequate crossing protection for hazardous crossings is lights and gates;
2. remove some incentive for manipulating the federal funding process in hopes of obtaining preemption of state law claims;
3. reaffirm the *Easterwood* opinion that minimum compliance with MUTCD does not preempt state law claims for improved crossing safety; and
4. allow states to protect their citizens when something less than "adequate crossing protection" exists at a hazardous crossing.

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APPENDIX 1

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a result of the crossing should be considered in establishing warrants for the various types of protection. Accidents reported by the railroads to the public utility commission may not provide the entire picture of crossing effectiveness to the highway user.

Johnson (29) presents a method for determining the maximum safe speed at railroad grade crossings dependent on the visibility at the crossing and the speed of the trains. Sight triangles, speed, and distance formulas are utilized. Three assumptions were made, as follows:

1. The safe speed of a vehicle depends on the visibility and speed of the train, along with general assumptions for reaction, acceleration, and deceleration.

2. When a vehicle is a specified distance from a grade crossing, and a train is sighted, there is a speed range that is too fast for a driver to stop and too slow for a driver to beat the train to the crossing.

3. There is a critical speed at which it is safe under all conditions assuming a perception-reaction time, vehicle deceleration rate, and a vehicle acceleration rate.

It was stated that three possible things can happen when a train and a vehicle approach a crossing. The vehicle may stop, accelerate, or collide with the train. The solution to the advisory speed included:

1. Vehicle length.
2. Distance from the driver's eye to the front bumper.
3. Perception-reaction time.
4. Deceleration (15 ft/sec^2 for a truck).
5. 20 ft of clearance allowed if stopping.
6. 50 ft of clearance allowed if accelerating.
7. Constant train speed.

One of the most interesting factors brought out in an analysis by the California Public Utilities Commission (*3*) is that 70 percent of the fatal accidents involved a highway vehicle approaching the train from the fireman's side of the locomotive. It was suggested that this might be due to the driver sitting on the left side of the vehicle and not having equal vision to the right.

The ideal protection, disregarding economy, is often said to be grade separation. A report by Kaiser (*31*) states that in Ohio twice as many deaths resulted from accidents at bridges as from accidents at railroad crossings. He further stated that 1 in 21 accidents at grade crossings were fatal, whereas 1 in 24 at structures were fatal. The incidence of fatal accidents in subways was 1 in 13. This seems to indicate that grade separation may not be the answer, especially when automatic protection provides a 90 percent reduction in accidents.

The absence of supporting data in previous research and the existence of arbitrary warrants are evidence of the need for cooperative data collection and analysis. It appears that because of arbitrary warrants and the strong public opinion, due to spectacular accidents, the return realized for money spent on protection devices may not be equivalent to the benefit received from them.

The need for conservation of the national resources and expenditure of funds where they will provide the greatest rate of return dictates that intensive research be conducted in this area.

TABLE A-8

DECREASES ACCOMPLISHED BY AUTOMATIC GATE INSTALLATIONS

STUDY DATE	PERIOD	DECREASE (%)		
		TRAIN-VEHICLE ACCIDENTS	DEATHS	INJURIES
Dec. 18, 1961	1951-60	62	85	83
Apr. 1, 1963	1951-62	60	90	84
Oct. 1, 1964	1954-63	57	89	88

TABLE A-9

SUMMARY OF EFFECTIVENESS OF AUTOMATIC GATES AT GRADE CROSSINGS, BY TYPE OF PROTECTION PRIOR TO GATE INSTALLATION (75)

PRIOR PROTECTION	ACCIDENTS PER CROSSING YEAR	
	BEFORE[a]	AFTER[a]
Crossbucks	0.427	0.122
Watchman	1.789	0.265
Wigwag	0.589	0.268
Flashing light signals	0.531	0.300
Manual gates	0.693	0.188

[a] Before and after installation of automatic gates.

TABLE A-10

EFFECTIVENESS OF AUTOMATIC GATES AT GRADE CROSSINGS, BY TYPE OF PROTECTION PRIOR TO GATE INSTALLATION (*13*)

PRIOR PROTECTION	ACCIDENTS PER CROSSING YEAR	
	BEFORE	AFTER
Crossbucks	0.267	0.160
Watchman	1.021	0.155
Wigwag	0.649	0.111
Flashing light signals	0.658	0.151
Manual gates	0.344	0.039

TABLE A-11

RESULTS OF STOP-SIGN OBSERVANCE AT RAILROAD CROSSINGS AND NEARBY INTERSECTION

	VEHICLES AT INTERSECTION		VEHICLES AT RAILROADS	
	NO.	%	NO.	%
Full stop	178	31.7	257	15.4
Almost stop (0-3 mph)	312	55.6	1,021	61.2
Entered slowly (4-15 mph)	67	12.0	329	19.7
Entered fast (over 15 mph)	4	0.7	61	3.7
Total	561	100	1,668	100

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APPENDIX 2

(LOGO)

U.S. Department
of Transportation

**Federal Highway
Administration**

**RAILROAD-HIGHWAY
GRADE CROSSING
HANDBOOK**

**– SECOND EDITION
FHWA-TS-86-215
SEPTEMBER 1986**

* * *

Chapter IV Identification of Alternatives

Driving tasks differ somewhat at crossings with active devices than at crossings with passive devices only. Passive devices indicate that a crossing is present and a highway user must look for an approaching train and take appropriate action. At crossings with active devices, a motorist is told when a train is approaching. The motorist must take appropriate action when the devices are activated. Crossing traffic control devices that are train activated normally incorporate some "fail-safe" design principles. As discussed in a following section on train detection, the warning system is designed to give the indication of an approaching train whenever the system has failed.

Active traffic control devices have proven to be an effective method of improving safety and operations at railroad – highway grade crossings. Effectiveness is the percentage reduction in accidents due to a crossing improvement. Utilizing data contained in the U.S. DOT/AAR National Rail-Highway Crossing Inventory and the Railroad Accident/Incident Reporting System data bases, effectiveness factors have been developed for active devices. The effectiveness factors are shown in Table 34 along with results obtained from a California study and

from a study by William J. Hedley covering 23 years of experience on the Wabash Railroad.

The effectiveness factors presented in Table 34 were developed from "before and after" accident experience of groups of crossings actually improved. The same effectiveness would not necessarily be experienced at any other crossing where the same improvements (changes) were made. It should be remembered that in those studies the crossings were selected for improvement by competent authorities as a precondition to performance of the work. Similar effectiveness could be anticipated under similar conditions.

* * *

Table 34. Effectiveness of Active Crossing Warning Devices

	Effectiveness Factors (Percent)		
Category	1980 U.S. DOT	1974 California	1952 Hedley
Passive to Flashing Lights	70	64	63
Passive to Automatic Gates	83	88	96
Flashing Lights to Automatic Gates	69	66	68

Source: Ref. 4, 12, and 20

* * *

APPENDIX 3

FHWA-TS-78-214

RAILROAD – HIGHWAY
GRADE CROSSING
HANDBOOK

TECHNOLOGY SHARING REPORT

U.S. DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

AUGUST 1978

Reprinted JUNE 1979

Reprinted December 1979

[LOGO]

* * *

Federal funds currently available for maintenance of control devices at grade crossings. Funds for this purpose must be generated from other sources.

3.3.2 Special State Funds

State legislation regarding grade crossing improvements varies widely with regard to funding, cost sharing and jurisdictional agencies and their authority. Special funding for grade crossing improvements has been authorized in less than one-half of the States. The list changes with each State legislative session. In general, State funds are made available for grade crossings not included in the Federal-Aid system. In several instances, funds are made available to defray a part of the railroad's maintenance cost of traffic control systems. No attempt will be made to describe these special funds.

* * *

3.3.4 Railroad Funding Status

As mentioned in Chapter 1, Federal Highway regulations, national legislation, and court decisions have decreased the railroads' financial obligations for grade crossing improvements. Although the railroads' contribution to the installation of control devices has decreased, the railroads' total financial obligation to crossing safety has increased. This requirement for increased railroad financing arises largely from the increase in the number of crossings that have train-actuated devices, which increases the railroad cost of maintenance.

The financial condition of individual railroads varies significantly. Some railroads are operating under bankruptcy. Other railroads are financially strained to remain in business. The financial conditions of some major railroads is such that their interest in grade crossing improvements is maintained. It may be expected that as the financial condition of an individual railroad deteriorates or improves the company's commitment to grade crossing improvement financing will change. Therefore, no single generalized statement applies to all railroads' ability to, or interest in, participating in grade crossing improvements.

* * *

APPENDIX 4

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

BRENDA BURKS, as personal representative of the estate of Brian Burks, individually and as Next Friend of WRYAN BURKS, Plaintiffs,	)	Case Number: CIV 98-204-A
vs.	)	
MISSOURI PACIFIC RAILROAD COMPANY, a Delaware corporation d/b/a UNION PACIFIC RAILROAD COMPANY, and/or UNION PACIFIC RAILROAD COMPANY, Defendant.	)	

DEPOSITION OF RICHARD REYNOLDS
TAKEN ON BEHALF OF THE PLAINTIFFS
OCTOBER 29, 1998
9:00 A.M.
IRVING, TEXAS

---

* * *

Have you done any investigations independently to try to determine how many lives could be saved with lights and gates?

A No.

Q Have you done any investigations to determine how expensive it is to put up lights and gates?

A No. Again, that's an engineering function.

Q If I understand correctly, you believe Cliff Shoemaker is the expert on the question of lights and gates at grade crossings as far as Union Pacific is concerned?

A Yes.

Q You respect his opinion?

* * *

Q And you, also, are aware that the Union Pacific does not seek to put up lights and gates unless that public money is available?

[p. 138] A Unless that agency has authorized it.

Q Authorized it and gotten public funding?

A Well, that comes with the authorization of that agency.

Q You say there's something – you slapped, a book. Where at in the book does it talk about this?

A Okay.

MR. POTTROFF: For the record the book, so inarticulately phrased by Plaintiff's Counsel, is Plaintiff's Exhibit Number 4.

THE WITNESS: Okay. Chapter 5, and it's 5-C-1. The selection on Page V-C-2. The third paragraph says, the selection of traffic control devices at grade crossings is determined by public agencies having jurisdictional responsibility at specific locations.

And then, further down, in one, two, three, four, fifth paragraph, last sentence – oh, no, sixth paragraph, last sentence. As a result, the Union Pacific is not responsible

for determining need or selection of devices at grade crossings.

We abide by the Federal Highway Administration guidelines and the Manual on Uniform Traffic Control Devices.

* * *

Is it your understanding, then, as the person who chairs the most powerful committee in the Railroad, Union Pacific Railroad, on grade crossing safety that your railroad has no independent duty to determine what crossing should get lights and gates?

MS. CALVERT: Objection. That calls for a legal conclusion.

Q (By Mr. Pottroff) I don't want your legal conclusion. I would like your opinion based upon how [p. 142] you're operating your committee you're operating your committee. Is it a presumption that you're making that you have no duty as a railroad to determine if lights and gates ought to go up at any given crossing?

A Well, we make recommendations to the given authorities in the state. We would like for you to do an analysis of this crossing. We feel like through something we look at, maybe, collisions, near hits, whatever the situation is, we would recommend that they do a study on that, an analysis of that crossing. We have made those recommendations, yes.

Q So all you recommend is that the Government come in and look at something?

A The agency who controls that roadway, who's going to have to be the agency that authorizes and tells us what kind of device to put there and all that, yes.

* * *

Q If, indeed, the Government by way of the United States Supreme Court has said, Railroad, you also need to be evaluating your crossings. If that occurred, can you tell me whether or not the Union Pacific has done anything since 1993 to begin an evaluation process of its own crossings to determine the need for lights and gates?

MS. CALVERT: Again, your interpretation contains legal opinions, and I'm going to object on that grounds.

THE WITNESS: Ask the law department and ask Cliff Shoemaker.

Q (By Mr. Pottroff) Okay.

A If it was done, it will be done by them.

Q From the law department, I don't want to know. From the engineering, I don't want to know. From your experience, has the Railroad done anything to begin [p. 144] doing this evaluation process?

A Independently –

Q Correct.

A – no. When we want to do it, we contact the agency. They bring out their traffic engineer and we jointly do it with them. We do not do it independently. We always bring in the agency involved.

* * *

[p. 147] Q Has there been any discussion in your committee about the installation of lights and gates at crossings and having them paid for by the Union Pacific Railroad?

A No to all of your statement.

Q Okay.

A Yes. We talk about installation. Cliff gives

* * *

Plaintiff's Exhibit 4

Union Pacific Railroad

(LOGO)

Grade Crossing Resource Manual
PB20876

Effective: August 1, 1998

Grade Crossing Safety Policies and Programs

---

* * *

C. Traffic Control Device Upgrade Policy

This Policy contains the requirements for upgrading Traffic Control Devices at grade crossings.

The Union Pacific has a specific policy for the upgrading of passive traffic control devices to active traffic control

devices and the upgrading of existing active traffic control devices at grade crossings. This policy is consistent with Federal Highway Administration (FHWA) guidelines and in accordance with the Manual on Uniform Traffic Control Devices.

Information is covered in the following sequence:

1.0 Definitions
2.0 Requirements
3.0 Reference Material

1.0 Definitions

The Federal Highway Administration's (FHWA) Railroad-Highway Grade Crossing Handbook contains the following definitions:

- **Active Traffic Control Device**

  Those traffic control devices activated by the approach or presence of a train, such as flashing light signals, automatic gates and similar devices, as well as manually operated devices and crossing watchmen, all of which display to motorists, positive warning of the approach or presence of a train.

- **Passive Traffic Control Device**

  Those types of traffic control devices, including signs, markings and other devices, located at or in advance of grade crossings to indicate the presence of a crossing but which do not change aspect upon the approach or presence of a train.

2.0 Requirements

Chapter 8 of the Manual on Uniform Traffic Control Devices (MUTCD) describes appropriate traffic control systems for railroad – highway grade crossings. Section 8A-1 states:

"The determination of need and selection of devices at a grade crossing is made by the public agency with jurisdictional authority."

Section 8D-1 states:

"The selection of traffic control devices at a grade crossing is determined by public agencies having jurisdictional responsibility at specific locations."

Active grade crossing traffic control systems range from:

1. Post mounted flashing light signals; to
2. Automatic gates combined with:
   (a) Post mounted flashing light signals;
   (b) Cantilever flashing light signals; or
   (c) Combination of the above.

Any of the foregoing may or may not incorporate a bell.

Due to the large number of significant variables which must be considered, there is no single standard system of active traffic control devices universally applicable for grade crossings. Based on an engineering and traffic investigation, a determination is made whether any active traffic control system is required at a crossing and, if so, what type is appropriate. Before a new or modified grade crossing traffic control system is installed, approval

is required from the appropriate agency within a given State.

It is Union Pacific's policy to abide by Federal Highway Administration (FHWA) guidelines and the Manual on Uniform Traffic Control Devices. As a result, Union Pacific is **not** responsible for determining need and selection of devices at a grade crossing.

3.0 Reference Material

Manual on Uniform Traffic Control Devices, 1988 Edition
Railroad-Highway Grade Crossing Handbook, Second Edition, September 1986.

* * *

APPENDIX 5

IN THE CIRCUIT COURT
OF JACKSON COUNTY, MISSOURI

KIMBERLY R. ALCORN, Plaintiff, v. UNION PACIFIC RAILROAD	Case No. CV97-31927 VIDEOTAPED CLIFFORD SHOEMAKER COMPANY, et al., Defendants TAKEN ON BEHALF PLAINTIFF

VIDEOTAPED DEPOSITION OF CLIFFORD SHOEMAKER, 1416 Dodge Street, Omaha, Nebraska, taken at 10:17 a.m. on May 11, 1999, by Rhonda S. Sansom, CSR, RPR and General Notary Public in and for the State of Nebraska, taken at 8944 H Street, Omaha, Nebraska.

* * *

[p. 11] more information about its own tracks than the federal government does?

A. In terms of railroad-specific items, I would agree with that, which is the reason we share that information with the various governmental agencies.

Q. Would you agree that Union Pacific does not have a program to go out and evaluate public crossings, independent of government agencies, to determine whether lights and gates should be installed?

MR. WILLIAMS: Object to the form of the question.

THE WITNESS: Yes, I believe that was part of a previous response. We do not do that unilaterally or independently.

BY MR. DAVIS:

Q. Would you agree that 90 percent of all crossing collisions would not occur if gates were installed?

MR. WILLIAMS: Object to the form of the question.

THE WITNESS: I would agree that from a probability standpoint gates and lights will reduce the probability of somewhere in the 85 to 90 [p. 12] percentile factor; however, if all crossings were equipped with gates and lights, then I would disagree in that over half the accidents that occur today nationally occur at signalized crossings.

So obviously, if every crossing was signalized, then any incident would be at a signalized crossing.

So in terms of probability of reducing accidents, I agree; in terms of saying at a given location it would reduce incidents flatly by 90 percent, I couldn't agree to that.

MR. DAVIS: I'm going to object to the second part of the question as being nonresponsive after you answered the question about whether or not 90 percent of all fatalities at passive crossings could be prevented by lights and gates.

But now I want to talk to you more about it.

* * *

Q. And lights without gates is not the normal practice these days, is it?

MR. WILLIAMS: Object to the form of the question.

THE WITNESS: There's many installations where flashing lights without gates are appropriate, and that's still being installed. But it's true, the majority of them do include gates nowadays.

BY MR. DAVIS:

Q. Do any – well, systemwide – let me strike that.

So if we just include the ones with gates and lights, then it would be 85 to 90 percent. Correct?

MR. WILLIAMS: Object to the form of the question.

THE WITNESS: Again, that was part of the second qualifier, I believe, in my response.

[p. 20] In a global sense, yes, you would expect accidents to be reduced by about 85 to 90 percent; however, you can't say that necessarily for a given location.

Again, a sizable number of incidents – fatalities and personal injuries – occur at gated crossings.

BY MR. DAVIS:

Q. Would you agree that very few of the signals put in with state or federal funds involve lights without gates because most states have adopted an all-gate policy in recent years?

A. In recent –

MR. WILLIAMS: Object to the form of the question.

THE WITNESS: In recent years, I would agree with that.

BY MR. DAVIS:

Q. Is it true that Union Pacific has never paid for a public crossing in Missouri to be upgraded from passive to lights and gates by itself, on its own?

MR. WILLIAMS: Object to the form of the question.

THE WITNESS: That, I don't know. I

* * *

APPENDIX 6

[p. 1] IN THE UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF OKLAHOMA

BRENDA BURKS,

Plaintiff,

vs. Case No. CIV98-204-A

MISSOURI PACIFIC
RAILROAD COMPANY, et al.,

Defendants.

DEPOSITION

The deposition of *Clifford Shoemaker,*

* * *

[p. 4] CLIFFORD SHOEMAKER,

of lawful age, having been first duly sworn on his oath to state the truth, and nothing but the truth, deposes and says:

DIRECT EXAMINATION

BY MR. POTTROFF:

Q. Would you state your full name for the record, please?

A. Clifford Shoemaker, S-h-o-e-m-a-k-e-r, (spelling).

Q. What's your current position with the Union Pacific Railroad?

A. Director of industry and public projects.

Q. You've had that title since about 1988?

* * *

[p. 29] activation at the crossing regardless of train speed.

Q. If you have one of those installations out there that have just lights and you're going to add gates, approximately what kind of cost would you get into there?

A. It's almost the same cost as a brand new installation because typically if it's an older flasher unit you're going to gut the whole thing and put all new circuitry in. And the circuitry is what cost the money. Gates will cost fifteen, twenty thousand dollars just for the gate mechanism, so that's a comparatively lower cost, but the warning circuits, switching the circuits out, the battery backup and the cables and everything that goes along with it is where the money's at.

Q. If you were just to add gates to an existing unit, fifteen to twenty thousand?

A. If you don't do anything to the circuits, that's correct.

* * *

[p. 142] IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

BRENDA BURKS, as personal Representative of the Estate of Brian Burks, individually and as Next Friend of WRYAN BURKS,	)	
Plaintiff,	)	
-vs-	)	
MISSOURI PACIFIC RAILROAD COMPANY, a Delaware corporation, d/b/a UNION PACIFIC RAILROAD COMPANY, and/or UNION PACIFIC RAILROAD COMPANY,	)	No. CIV-98-204-A
Defendant.	)	

* * *

VOLUME II
CONTINUATION OF THE DEPOSITION OF
CLIFFORD SHOEMAKER
TAKEN ON BEHALF OF THE PLAINTIFF
IN OKLAHOMA CITY, OKLAHOMA
ON DECEMBER 9, 1998

The Honorable Ronald L. Howland, Presiding
REPORTED BY: Rebecca S. Young, CSR, RPR

* * *

[p. 201] didn't know of any research and development projects within your engineering department to try to further develop these alternate technologies, magnetic,

radio, those type of advance warning technologies. Are you aware of any such research and development efforts in the Union Pacific railroad?

A Well, of course, we don't supply materials, per se. We're not in the development business. But what we do do is work with inventors, people that have ideas, that it makes some sense to work with them to get that testing accomplished, such as we are doing with the EVA Company.

Q Okay. How do you – how does the Union Pacific go about promoting the input of inventors or these idealists out there that think they've got an idea on how to save lives at grade crossings?

A If it comes to us up front, I will usually sit down and talk to the inventor, or whoever it may be, and give them input as to what the needs are of a system, such as those outlined in the Manual on Uniform Traffic Control Devices.

There are several criteria in there that must be met before any device is placed on a public roadway. And so it has to be relatively consistent with that, although certainly it encourages research on trying to develop a better mousetrap, so to speak.

[p. 202] So you go through the preliminary processes, but once they get through that, if it appears to meet that need, then there are mechanical issues, repetitive usage of equipment under different weather and weather conditions, we'll say, and different operating conditions, and it has to meet some very rigid operating conditions, and to ensure that that's worked out.

And quite often we'll send them back to their labs to do external testings, ASTM testing, for example, to show that it's at least as credible and reliable as existing equipment.

And then if it gets past all those stages and it appears to be appropriate for use, we'll work with a public agency which has to approve such testing, such as a state highway department typically, to generate a possible test site.

For example, the EVA system, we have selected a crossing in Washington county, which is north of Omaha a ways, where the county engineer and the state department of roads have agreed, once we get through the mechanical side of things, that if that passes muster, if you will, that we are agreeable to installing a complete system as a test.

We will work with inventors through that process.

[p. 203] Q Why doesn't the Union Pacific have its own research and development department in the area of grade crossing technology?

A Again, number one, we do not build or specify the materials. These are all through the public agencies, as these are highway traffic control device, not railroad control.

But that aside, we do work with and have research people available to work with inventors, developers, manufacturers, to field test or lab test different equipment and different ideas that may come about, and/or we refer them to an agency who does have that capable,

such as the US DOT Volpe Center in Cambridge, Massachusetts, such as the Rail Research Lab at Pueblo, Colorado, or whatever is appropriate for the given project.

* * *

But on the other hand, if it becomes – the situation develops where you've got an awful lot of false indications, that's not desirable, so then you may look at some other technology.

Q Okay. I keep going off into interesting conversations with you, Cliff. Back to the question on in-house versus outside research and development, are you aware if there has ever been discussion within the Union Pacific Railroad to establishing an in-house research and development team for crossing safety?

A Not purely for that topic, that I'm aware of.

* * *

[p. 314] crossbucks up with higher grade retro-reflective materials on the crossbucks?

A To study the possible impacts of the different signing. I talked to Joe Kyle about that just the last few days. They are doing a human factors study on that, to see if that change in signing has any significant driver behavioral change.

Q That's, in essence, replacing crossbucks that the railroad already had the responsibility for maintaining?

A Correct.

Q But the benefits that are obtained by the railroad is that they get new crossbucks paid for by federal money, 90 percent?

A Correct.

Q And they get to argue that now those crossings are preempted. If somebody gets in an accident at that crossing, the preemption argument can be made that indeed this crossing has been upgraded according to some state or federal standard; therefore the argument that it needs to be upgraded cannot be made.

MR. HART: I'm going to object. It calls for a legal conclusion.

A That's not the intent of the project. The project is to evaluate the effectiveness of a brighter [p. 315] sign and also putting stripes on the mast to create more of a goalpost effect, if you will, of passive crossings, and just see if there's any significant change in driver behavior. That's the intent of the study.

Q (By Mr. Pottroff) But you've been advised of secondary benefit to the railroad of the preemption argument being available.

MR. HART: Objection. Leading.

Q (By Mr. Pottroff) Is that correct?

A That could be an argument. That's not the trust of the project.

Q But you are aware that is an argument that's made when those type of projects are completed?

A I've heard that legal argument.

Q And that's an argument that's used in open court by the railroads' lawyers once those projects have been completed?

MR. HART: Objection. Leading.

A I've heard that in some cases. I'm not sure if it's routinely used in open court, as you imply, but I've heard it.

Q (By Mr. Pottroff) The other projects that will have the effect of taking money out of lights and gates programs and putting them into other hazard eliminations would be crossing surface repairs, correct?

[p. 316] **A Replacements.**

Q Those are projects which the railroad would have had to have paid for themselves as regular maintenance repair items if there wouldn't have been federal money taken out of the federal aid program, correct?

MR. HART: I object to the characterization of the program and of your characterization of the law in regard to it.

A It's the states' option as to how they spend those dollars. And, yes, by statute, the railroad is typically required to maintain the crossing surfaces. Or if the state elects to upgrade the nature of that roadway to some level above what it was being maintained at, they certainly have that option.

The argument being or the logic being, in a federal memorandum some time ago back in the seventies, when that first came about, is that the driver could theoretically be taking more time being concerned with

the geometrics, if you will, of the crossing, and not spending enough time on the warning device.

Typically, in fact, by federal law, the warning devices have to be addressed or already in place before the dollars can be spent on the surface. But usually it's as a package, not just a surface.

Q (By Mr. Pottroff) But my point is, those are – [p. 317] those funds are being spent on items that are the total responsibility of the railroad, in any event.

MR. HART: Going back to duty, again, I'm going to have to object. Are we going to save this for the judge?

Q (By Mr. Pottroff) You know what the railroad is responsible for, ties, ballast, right-of-way, crossing surface.

A Except for on the limited number of times – we'll talk Oklahoma, but it's pretty true elsewhere – when they do use federal monies for the surface, they also are renewing the approaches, doing some geometric changes, whether it be a vertical curve or curve of the gutter, or some other work to improve the highway system as a whole, and the crossing certainly is just a part of that system, but there are federal funds occasionally used for that.

Q I understand that they are used for that on occasion. My point is, if the federal funds weren't used on it, it would be the railroad's responsibility to spend their money on crossing surfaces.

A To the limits of the statute that covers that, that's correct.

Q And so these federal monies that are actually coming out of the lights and gates kitty are to pay for crossing surfaces that would have otherwise been the [p. 318] responsibility of the railroad?

A Not exactly, they're taken out of the optional kitty, if you want to call it that. The money that has to be spent on lights and gates or warning systems is spent for that purpose. The optional money, the state can use it for bridges, they can use it for crossing surfaces, they can use it for almost anything they want pertinent to safety.

Q Railroads are actively soliciting the use of those funds for crossing surfaces and state-wide or corridor-wide crossbuck programs and lens replacement programs, are they not?

MR. HART: Objection. It's leading. It's argumentative.

Q (By Mr. Pottroff) Union Pacific, in particular the people that work for you.

A Generally speaking, again, if it's part of a package deal, we might encourage the surface, but we don't go after surface projects as standalone projects. We do encourage corridor projects, including passive signing upgrades. For the price of one signal installation, you might address 100 crossings with passive signing. And if the test that Joe Kyle has lined up is successful, then it was an excellent project.

Q What about lens replacement programs? Those are [p. 319] those, as I understand it, programs where you want federal assistance to go upgrade from the old 8-inch

roundel to a 12-inch lens, which is the more state-of-the-art lens.

A We have had some of those state-wide programs, that's correct.

Q And that is money taken out under the hazard prevention part of the federal funding program?

A It could be out of either side.

Q Okay.

A And, again, for a fraction of the cost for one new installation, you might do 10 or 20 crossings, enhancing the safety if crossings already had signals but maybe they weren't state-of-the-art.

Q But if what you told me before was correct, that was already the responsibility of the railroad to keep upgrading their crossings, from a maintenance point of view, to get rid of obsolete equipment when it becomes obsolete.

A Eight-inch lenses are not obsolete. They are still a current standard. He have opted, at Union Pacific, to do a lot of that at our own expense.

Q Current standard for whom?

A The guidelines as described in the MUTCD, which are the devices that are available – current device available to put at public crossings.

* * *

IN THE UNITED STATES DISTRICT COURT
FOR THE
WESTERN DISTRICT OF OKLAHOMA
BRENDA BURKS, as personal)
representative of the Estate)
of Brian Burks, individually)
and as Next Friend of)
WYRAN BURKS,)
)
Plaintiff,)
)
vs.) No. CIV-98-204-A
)
MISSOURI PACIFIC RAILROAD)
COMPANY, a Delaware)
corporation, d/b/a UNION)
PACIFIC RAILROAD COMPANY)
and/or UNION PACIFIC)
RAILROAD COMPANY,)
)
Defendant.)

VOLUME III
OF THE DEPOSITION OF CLIFFORD SHOEMAKER
TAKEN ON BEHALF OF THE PLAINTIFF
IN OKLAHOMA CITY, OKLAHOMA
ON DECEMBER 10, 1998
The Honorable Ronald L. Holland, Presiding
REPORTED BY: Judy Thompson, CSR

* * *

[p. 383] signals."

How long has that message been in the Operation Lifesaver presentations, if you know?

A A long time, certainly since the beginning of the Trainers' Guide, this guide we're looking at now. And that's been a true statement for many years.

Q If I were an ordinary citizen with no knowledge about grade crossings, would you want me to come away with the belief that crossings with gates and lights are more dangerous than crossings without them?

A No. There's no hidden message in this document. It's simply to advise the drivers there is a responsibility that they have, as well as the other people involved in the grade crossing, highway-rail program, and that is to heed the warnings. But they also have the responsibility to look for trains, to listen for trains and so forth, regardless of what type of device is out there. Statistically, this is nothing to do with Operation Lifesaver, we discussed this yesterday, that flashing lights and gates or flashers alone will have, in the global sense, an effect of reducing accidents under most conditions.

[p. 384] Certainly, where the signals have been installed in the past, you have a higher, we'll call it exposure, that being more trains and more vehicles. And also we discussed if you assume, say, a 90 percent probability of reducing accidents, if you push a gazillion vehicles through one crossing, and you still only expect 90 percent reduction, you're still going to have that 10 percent. But because I believe the successfulness of the joint program we've discussed, allowing the state highway

agencies to select the priorities where they have the highest probability of incidents, and that's where the signals have gone in for many years, we're still reducing the accidents. But because of increased traffic flow, more incidents are going to occur at signalized crossings. Certainly, if you signalize every crossing in the country, which you have suggested, possibly, then any incident you had would be at a signalized crossing. So statistics are statistics. But the message here is no hidden messages and that drivers need to be aware of the potential danger of all crossings whether they're signals or not.

Q The fact then that's represented in the

* * *

APPENDIX 7

IN THE DISTRICT COURT OF CANADIAN COUNTY
STATE OF OKLAHOMA

BRENDA AND EUGENE SPENCE, individually, Plaintiffs, vs. MISSOURI PACIFIC RAILROAD COMPANY, a Delaware corporation, d/b/a UNION PACIFIC RAILROAD COMPANY, and KERRY S. KNUTSEN, and/or UNION PACIFIC RAILROAD COMPANY, Defendants, and TRAVIS SPENCE, an incompetent person by and through his guardians, BRENDA AND EUGENE SPENCE Plaintiffs, vs. MISSOURI PACIFIC RAILROAD COMPANY, a Delaware Corporation, d/b/a UNION PACIFIC RAILROAD COMPANY, and KERRY S. KNUTSEN, and/or UNION PACIFIC RAILROAD COMPANY, Defendants.	Case No. CJ-97-1 Consolidated with: CJ-98-287

DEPOSITION OF CLIFFORD SHOEMAKER
TAKEN ON BEHALF OF THE PLAINTIFFS
OCTOBER 21, 1999
TULSA, OKLAHOMA

* * *

[p. 159] Q Are you aware of what percentage of traffic, that's potential encounters between trains and cars, go through that 25 percent of the crossings?

A Somewhere around 80 percent, if I recall the numbers.

Q So 80 percent of the traffic is going through that 25 percent of the crossings?

A 70 to 80. Somewhere in that – I don't remember the exact number, but certainly a majority of the traffic. That is correct.

Q And half of the accidents are then occurring where lights and gates don't exist?

A The reverse of what I said earlier. That's correct.

Q And those accidents are preventable to the tune of 90 percent by the installation of lights and gates?

A Theoretically, based on probability indices.

Q Now, those crossings that have lights and gates, there's any number of reasons why accidents occur there?

A Just like there's any number of reasons why they occur at passive crossings.

Q And as long as there's crossings, we will have some accidents at the crossings?

* * *

APPENDIX 8

IN THE DISTRICT COURT OF CADDO COUNTY
STATE OF OKLAHOMA

STEVE MYERS and VIOLET MYERS, individually, personally, and in Behalf of the Estate of LESA MYERS, and MELISSA ROBERTS and STEVE MYERS,	)	
Plaintiffs,	)	Case No. CJ-97-49
vs.	)	Consolidated with
MISSOURI PACIFIC RAILROAD COMPANY d/b/a UNION PACIFIC RAILROAD COMPANY, and/or UNION PACIFIC RAILROAD COMPANY, and JIM Q. COLLINS,	)	Case No. CJ-97-46
Defendants.	)	

DEPOSITION OF CLIFFORD SHOEMAKER
TAKEN ON BEHALF OF THE PLAINTIFFS
APRIL 1, 1999
9:00 A.M.
OMAHA, NEBRASKA

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* * *

Q How much does it cost, if you know, and you can give me an approximation, to add just gates to a light installation?

A Just the gates, themselves, if somebody who knows circuitry changes, are about, oh, say, $15-, $16,000 per gate mechanism.

Q Now, is that per gate, would be one for each said [sic] of the road, then?

* * *

[p. 59] hierarchy or tenure, or anything like that, that determines who's going to be next on the Board of Operation Lifesaver?

A To a degree, yes. The AAR does have a representative, and Mr. Dettman is the current representative. Prior to that was Paul Oakley, O-a-k-l-e-y.

Amtrak has a representative.

The Program Development Council provides three members; the current chair of the PDC, the past chair, and the chair-elect –

Q Okay.

A – are Board of Director Members.

Q All right. You said the PDC?

A Program Development Council.

Q Okay.

A That's the third group down on the chart.

Q Okay.

A So currently, Eddie Gilbert from Norfolk Southern is the current chair of the PDC, therefore, he's on the Board. I am the immediate past chair of the PDC and on the Board, and Lynn Johnson from CSX is the chair-elect for the PDC, so he is on the Board.

Another hierarchy is the Railroad Progress Institute, that they have a member on the Board [p. 60] continuously.

ASHTO has a full-time member and, currently, Otto Sonnefield. (All phonetic.) he happens to be the chairman this year, and then, Erick Jacobson is on the Board, and that's because we have an opening, a standing member on the Board that happens to be a state coordinator for Operation Lifesaver, and that will rotate.

Q You try to keep one coordinator on?

A Correct.

Q Okay.

A To provide interface with the state activities to the Board. The rest of them will have a short line representative. Again, right now, it's Ronnie McCaron, (Phonetic.) with Wisconsin Central, is the current member, and that rotates different carriers periodically.

We try to have at least one commuter or passenger operation besides Amtrak, and that currently is Richard, Rick Tidwell, from Metro, the Chicago operations.

Q Chicago.

A But that's kind of how it is set up. We've got the – RPI being the manufacturers side of things, the supply side, plus Amtrak, plus short line, plus a commuter operation, plus the highway agencies. By – I [p. 61] don't know if it's Constitution or what – Federal Highway and Federal Rail folks cannot sit on the Board.

Q Okay.

A In fact, that was probably the eleventh. We asked Jolene Molitoris (All phonetic.) to be on. She accepted, and then she had to turn around and leave, because her constitution, or bylaws, or whatever, don't allow for them to sit on a –

Q On Operation Lifesaver?

A Whatever. On any board, I guess.

Q Okay.

A But ASHTO does allow it. Of course, ASHTO is the trade organization, if you will, for the state highway departments.

Q Right.

A Not unlike the AAR is for the railroads.

Q Do you know if Otto – what is his name, Schoenfield?

A Sonnefield.

Q – Sonnefield has any specific expertise in railroad grade crossing safety or some niche in ASHTO that is railroad related?

A Yes. He does.

Q Tell me what that is to the best of your knowledge.

* * *

[p. 146] A Correct.

Q And that they're important aids in warning you of dangers.

A Correct.

Q But over half of the collisions occur at crossings equipped with automatic signals.

A Correct.

Q Do you believe that that imparts to the public the message that over half of the collisions occur at crossings with gates?

A I don't interpret it that way.

Q No, because you know exactly what the word choices were, don't you?

A Yes. And I know that the statistics are.

Q The world [sic] choices was automatic signals, because it's not true that over half the crossing accidents occur at ones with automatic gates.

A That's very true.

Q In fact –

A Absolutely true. I agree.

Q In fact, a very fraction occur at crossings with gates?

A It's something, like, 10 – between 10 and 20 percent.

Q But the public, if they listened to this

* * *

APPENDIX 9

App. 50

DEPOSITION EXHIBIT 5

THE

UNION PACIFIC RAILROAD

AND

GRADE-CROSSING SAFETY

A Report By

Dr. Harvey A. Levine
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August 1999

This report addresses the issue as to whether economic practices and policies of the Union Pacific Railroad (UP) have adversely affected the adequacy of safety at that railroad's grade crossings. (Attachment No. 1 is a statement of the author's qualifications.) Based on an analysis of empirical evidence since the Staggers Rail Act of 1980, the report concludes that: *While the UP could well have afforded to provide adequate safety facilities at all of its passive grade crossings, and that while the benefits to society from such installations would have outweighed the costs, the railroad shirked its public responsibility by choosing solely economic gains over saving lives. Thus, in the case of grade crossings, the UP has displayed a conscious disregard for safety.*

I. The UP has an inherent public responsibility to provide for safe grade crossings.

Unlike most other companies in the United States, the UP has an inherent *public nature.*[1] While privately owned the UP was birthed and developed in the mid-1800s with massive public aide.[2] Then in 1887, the federal government regulated railroads in a manner different than other industries and has continued to treat railroads as a rather unique industry. Railroads are immune from antitrust laws affecting other industries.[3] They benefit from special anti-strike legislation,[4] bankruptcy provisions[5] and public-assistance.[6] Railroad employees fall under their own workers' compensation,[7] unemployment insurance,[8] and retirement systems,[9] rather than being under state programs and federal social

security. And the country's *National Transportation Policy,*[10] and a host of other transportation legislation reflect the public nature of railroads.

The public nature of the UP is not a one-way street as the railroad has obligations to the public which licensed and is affected by it. From an economic viewpoint, the UP has a common-carrier obligation and must provide joint rates, through routes, non-discriminatory service and reasonable rates. From a societal perspective, the UP must provide reasonably safe facilities and operations, notwithstanding federal assistance. In fact, five years after the initiation of federal assistance for grade-crossing facilities,[11] the Federal Highway Administration (FHWA) affirmed that railroads have responsibility for improving grade-crossing safety. More specifically, in 1978 the FHWA stated that:

> *It may be expected that as the financial condition of an individual railroad deteriorates or improves, the company's commitment to grade crossing improvement financing will change. Therefore, no single generalized statement applies to all railroads' ability to, or interest in, participating in grade crossing improvements.*[12]

The FHWA's position reflected public policy in this country – that limited public funding supplements, rather than supplants, corporate public responsibility. This is patently obvious in the case of the UP – the country's largest railroad, with 34,000 miles of road operated.[13] 32,000 public grade crossings,[14] and 432 billion ton-miles of traffic[15] – impeding the free movement of people and goods. With trains outweighing automobiles by a 3,000-to-1 ratio[16] and taking a mile or so to stop, it is incumbent

upon the UP to provide adequate safety to those crossing its publicly-vested track structure. If it were not for the railroad, there would be no grade-crossing accidents.

Recently, the UP's responsibility to provide safe crossings was again recognized by the federal government – this time, by the Surface Transportation Board (STB) in its review of the UP's acquisition of the Southern Pacific Railroad (SP) in 1996. In conducting its environmental impact analysis, the STB recognized that upgraded facilities were desirable at a number of post-acquisition UP grade crossings, including the installation of signals and gates. In response, the UP agreed to fund such facilities in among other areas, the cities of Reno, Nevada and Wichita, Kansas. In these situations, the UP voluntarily funded such facilities.[17]

II. The root goal of the Staggers Rail Act of 1980 was to eliminate the capital shortfall of railroads, thus enabling them to provide adequate and safe service.

The year 1980 was adopted as the base year for statistical analysis for three reasons. First, the Staggers Rail Act was enacted in that year,[18] deregulating much of the economic behavior of railroads and culminating [sic] a series of favorable railroad legislation enacted during the 1970s.[19] Second, the Staggers Rail Act recognized that railroad earnings were *insufficient to generate funds for necessary capital improvements*,[20] somewhat excusing the industry for past investment shortfalls, but indicating that the anticipated turnaround of railroad finances

would require the fulfillment of economic and social obligations. More specifically, the *Rail Transportation Policy* section of the Staggers Rail Act identified expected benefits of railroad deregulation which would accrue to four parties as follows:

1. *Customers*: Shippers were to receive reasonable rates, sound transportation, and the avoidance of undue concentration of market power.
2. *Shareholders*: Investors were to realize adequate returns.
3. *Labor*: Employees were to receive *fair wages and safe and suitable working conditions.*
4. *General Public*: The public was to enjoy a rail transportation system *without detriment to the public health and safety.*

Finally, using 1980 as a base year provides enough of a record to identify trends, eliminate anomalies, account for the impact of railroad mergers, and thus identify the economic behavior of the UP over an adequate time period.

III. At the time of the enactment of the Staggers Rail Act, unlike most railroads in the country the UP was financially sound.

The record is well documented that the railroad industry was in the financial doldrums in the decades following World War II.[21] In 1976, Conrail (with substantial federal aide was created out of six bankrupt railroads.[22] Other bankrupt railroads were partially abandoned and partially merged into other operating systems. Overall railroad earnings were at extremely

depressed levels and maintenance was often deferred. The Staggers Rail Act concluded that railroad earnings were *the lowest of any transportation mode and insufficient to generate funds for necessary capital improvements*, and that without the legislation railroads would experience a capital shortfall of $16-$20 billion by 1985.[23] However, the UP was an exception to the dire financial condition of the railroad industry. For example, as shown below, the UP enjoyed rates of return on equity (ROE) which were far above the industry as a whole. As stated in the UP Corporation's (UPC) 1980 annual

Year	ROE: All Railroads	ROE: UP[24]
1978	1.3%	10.3%
1979	5.4%	10.2%
1980	6.0%	10.7%

report, *Union Pacific Railroad posted an increase in earnings in 1980 for the fifth consecutive year*. In 1980, the UP realized operating revenue of $2.0 billion, earned railroad income of $214 million, and made capital expenditures of $423 million.[25] Of the 35 Class I railroads operating in 1980, the UP ranked third in traffic volume, fifth in operating revenue, seventh in miles of road owned, and first in railroad earnings.[26]

IV. In spite of its financial health, the UP reacted to the Staggers Rail Act by focussing on massive cost cutting.

The UP applied its new-found economic freedoms under the Staggers Rail Act to conduct a program of massive cost cutting. In its 1982 annual report, the UPC stated that, *On the cost cutting side, UPRR continued to be*

an industry leader. In 1980, the UP's cost of producing a ton-mile of traffic was 2.19 cents.[27] while in 1996[28] the figure dropped to 1.55 cents,[29] equating to a 0.64 cent reduction, or a 29% decline in operating costs over the 16 years. Equally startling is that the 29% cost reduction was made in spite of an 88% increase in railroad inflation.[30] In essence, the 1.55-cent cost in 1996 is equivalent to 0.82 cents in 1980 dollars (inflation index of 100/188 x 1.55 cents), so that in inflation-adjusted terms, the UP's cost savings in 1996 compared with 1980 is 1.37 cents (2.19 cents minus 0.82 cents), equating to a 63% reduction in operating costs. The UP's cost savings in the single year of 1996 can be calculated in both reported and inflation-adjusted terms as follows:

1. Reported: 0.64 cents savings x 332.861.334.000 ton-miles[31] = $2.1 billion
2. Inflation-Adjusted: 1.37 cents avoidance x 332.861.334.000 ton-miles = $4.6 billion

Similar calculations can be made for all other years between 1980 and 1996, but these calculations would require adjustments for the inclusion of *special charges* (non-reoccurring costs) which were reported by the UP as operating expenses. Furthermore, similar calculations can also be made for the years 1997 and 1998, but the results would distort the overall trend because they would include the inefficiencies related to the acquisition of the SP. For the purpose of this report, it is sufficient to conclude that the UP's emphasis on cost cutting since deregulation in 1980 resulted in the avoidance of tens of billions of dollars in operating expenses.

V. At the heart of the UP cost cutting was a significant reduction of its labor force.

Because the UP acquired various other railroads since 1980, employment reductions must account for the addition of other railroads' employees, including: (1) purchase of Missouri Pacific and Western Pacific railroads in 1982, (2) acquisition of Missouri-Kansas-Texas Railroad in 1988. (3) purchase of remaining stock in Chicago & North Western Railroad in 1995, and (4) acquisition of Southern Pacific Railroad in 1996. After adjusting employment levels for these purchases, the result of the changes in UP employment from 1980 to 1998 was a reduction of 21,647 employees.[32] What is astonishing about the termination of 21,647 positions is that UP traffic increased by 31.4% during the 18-year period between 1980 and 1998.[33] If UP had retained the terminated employees and in 1998 provided them with the average annual compensation of $72,480,[34] the railroad would have incurred an additional operating expense of $1.6 billion in that single year.

UP maintenance-of-way employees were not excluded from the employee reductions. As shown in Attachment No. 2, from 1980 to 1998 the UP terminated 4,192 employees under the classification of *Maintenance of Way and Structures*, resulting is [sic] a savings of $2.6 billion in compensation – measured by the dollars saved in each year. If measured by the value of current dollars, the savings would be substantially more. Thus, the reduction in force was a significant part of UP's cost-cutting program. Other cost savings were realized by the abandonment and sale of light-density lines, economies of scale and density associated with mergers, efficiencies

associated with new technology, and measures to increase productivity.

VI. The monies saved by the UP in the post-Staggers Rail Act years were used to benefit company executives, other employees, shareholders and shippers.

There were a number of beneficiaries of the UP cost cutting, but the level of benefits were far from uniform as discussed below.

1. *Executives*: UP executives were richly rewarded for the cost cutting largely because they had financial incentives to slash operating expenses. Executives pay at the UP is divided into two main segments: annual pay and long-term compensation. Aside from salaries and fringe benefits, annual pay includes bonuses based on the level of the ROE.[35] As shown below, executive bonuses awarded to UPC employees increased to over $100,000 per person in 1996.[36] Furthermore, in 1997 when UP earnings were below the ROE required to trigger

Year	No. of Executives	Total Payments ($ Millions)	Bonus Per Executive
1993	190	$17.8	$94,000
1994	195	17.1	92,000
1995	149	14.9	100,000
1996	138	13.8	112,000

executives bonuses, the corporation still awarded $7.1 million to 154 executives (an average of $46,000 each) because *a balance was available in the reserve fund from prior*

years.[37] In essence, UPC used past surplus profits to reward its executives even though they did not meet the required performance standards.

On average, UP executive compensation (excluding stock) more than doubled from $45,232 in 1980 to over $90,620 in 1998.[38] This compares with a national inflation rate of 87% over the 18-year period.[39] UP executives probably earned an average compensation in excess of $100.000 in 1998 because the reported number represented *executives, officials and staff assistants*, due to a change in reporting format. Since executives earn more than officials and staff assistants, the reported 1998 executive compensation was understated as part of the broader category.

Aside from their annual pay, UP executives receive long-term compensation in the form of stock options and grants of retention stock.[40] These stock awards are based on UP financial performance and are made to tie the economic interests of UP executives with those of the shareholders.[41] At the end of 1995, the president of the UP possessed $5.3 million worth of stock grants.[42] Furthermore, he owned 325.321 shares of common stock valued at $21.5 million.[43] Clearly, UP executives were well rewarded for their cost-cutting success and ensuing increases in profits in the years following deregulation.

2. *Other Employees*: UP employees other than executives received monies from the railroad's post-deregulation performance in two ways. First, those employees who were terminated received substantial severance payments. In 1986 and 1991 the UP recorded *special charges* totaling $1.4 billion – primarily for employee buy-outs.[44]

Second, already among the highest paid employees in the United States for similar type of work. UP employees received added compensation significantly above the rate of national inflation. In 1980, UP employees received an average wage of $25,523[45] and fringe benefits valued at $5,998[46] for a total annual compensation of $31.521. In 1998 the average wage was $54,496 with added fringes of $17.984 for a total annual compensation of $72.480.[47] Thus, the average annual wage of UP employees increased by 130% from 1980 to 1997, significantly above the 87% rate of national inflation during that same period.

3. *Shareholders*: Equity investors benefitted in a variety of ways from the UP's post-Staggers Rail Act financial gains. First, the UP spent billions of dollars to acquire other major railroads,[48] thereby strengthening its market position. From 1980 to 1998, the UP share of the railroad market increased as follows: miles operated – from 5.2% to 28.1%; operating revenue – from 7.1% to 27.8%; and, revenue ton-miles – from 8.6% to 31.4%[49] Second, the value of shareholder's equity increased from $1.5 billion in 1980 to $8.8 billion in 1998.[50] Third, the UP's net railroad operating income increased from $214 million in 1980 to about $1 billion in the late 1990's.[51] Fourth, the UP's ROE increased from 10.7% in 1980 to 13%-17% in the late 1980s and middle 1990s.[52] And finally, the UP paid out dividends totaling $5.6 billion between 1981 and 1998.[53]

4. *Shippers*: The constraint of railroad freight rates since 1980 is well documented and has been noted by the Association of American Railroads (AAR), Interstate Commerce Commission, STB, General Accounting Office,

and a number of individual studies (e.g., Brookings Institution). As expected, freight rates were most compressed where competition was greatest, such as for intermodal traffic. Where demand was relatively inelastic, UP freight rates tended to rise up to the level of inflation. In fact, a significant number of UP rates fall under contracts which contain escalator clauses tied to the rate of inflation. In 1998, UP realized revenue of 2.05 cents for every ton-mile of traffic it handled, compared with 2.53 cents in 1984.[54] While this reduction reflects rate compression, a taper in the rate structure, average longer hauls, and shifts in traffic toward relatively heavier (more dense) commodities.[55] It is undeniable that shippers benefitted from railroad rate compression since enactment of the Staggers Rail Act.

VII. In spite of its financial gains, the UP has not provided funds for adequate grade-crossing safety facilities.

The UP has not repressed its denial of responsibility to provide for the installation of adequate grade-crossing safety facilities. The railroad has taken such a position in judicial proceedings and has openly stated that such responsibility rests solely with the public. No mention of capital expenditures for installing such facilities as signals and gates is in its annual reports or its policy statements. The UP's denial is reflected in the composition of safety facilities at its crossings. Of the 31,818 UP public grade crossings in 1997, only 7,350 (23%) had crossing gates, and 19,723 of the crossings were *passive* in that they had no gates or flashing lights.[56]

Aside from the lack of capital expenditures at grade crossings, it appears that UP's maintenance expenses at grade crossings declined by 50% in inflation-adjusted dollars from 1980 to 1996, as shown below. With the inclusion of the SP in 1997, the UP's maintenance

		1980	1996
1.	UP maintenance expense at grade crossings	$3,135,000	$8,070,000[57]
2.	Number of crossings	7,761	21,479
3.	Maintenance expense/crossing	$404	$376
4.	Inflation-adjusted maintenance/crossing	$404	$200

cost per grade crossing increased to $522 ($16.6 million divided by 31,818 crossings), but the inflation-adjusted expense of $278 was still substantially below the 1980 level.[58]

VIII. The societal benefits of safe UP grade crossings outweigh the costs.

Over the past six years there were more deaths and injuries at UP grade crossings than at any other of the 46 freight, passenger, terminal and commuter railroads reporting such casualties to the Federal Railroad Administration. Between 1992 and 1997, the UP experienced an annual average 143 fatalities and 406 injuries at its grade crossings, accounting for 26% and 23% respectively of the industry totals.[59] For the railroad industry as a whole, 80% of the grade-crossings accidents occur where there

are no gates.[60] Evidence indicates that many of these accidents would have been avoided if gates had been installed. For example, a U.S. Department of Transportation publication declared that: *Active traffic control devices have proven to be an effective method of improving safety and operations at railroad-highway grade crossings.*[61] The position of this publication was based on a 1980 study showing the effectiveness (% reduction in accidents due to crossing improvement) of upgrading grade-crossing devices as follows:[62]

Upgrade	Percent Effectiveness
- Passive to flashing lights	70%
- Passive to automatic gates	85
- Flashing lights to automatic gates	69

Based on the above evidence (1992-1997), by installing signals and gates at its passive crossings, the UP could have been expected to eliminate a substantial portion of its 143 average annual grade-crossing deaths and 406 injuries. Even if the impact from signals and gates was only a 40% reduction in accidents, over the 25-year expected life of a crossing gate, over 1,400 lives would be saved and over 4,000 injuries avoided. Other savings from gated crossings would include the costs to the railroad, expenses incurred by local communities, the cost of damaged cargo, and possibly the catastrophic consequences of a major hazardous materials event. There are numerous and widely varying estimates of the value of lives and estimating the cost of injuries, hazardous-materials spills, etc., is a dubious undertaking. Thus, it

appears reasonable to simply conclude that if the UP installed signals and gates at its passive crossings, countless billions of dollars of societal benefits would be realized.

On the cost side, it is estimated that the net (after tax) cost to the UP of installing signals and gates at 20,000 grade crossings, over the 25-year expected life of those facilities, would approximate $325 million, or $13 million annually. The calculations presented below are based on: (1) an average installation cost of $100,000 per signal and gate set, (2) a 25-year facility life, (3) UP paying 41.5% of the installation costs, representing the midpoint between 33% and 50%, (4) an ability of UP to pass on 40% of the installation costs to its customers, and (5) a UP combined state-and-federal income tax rate of 37%.

20,000 passive grade crossings
x $100,000 (installation cost per crossing)
= $2,000,000.000 total cost
25 years (life of signals and gates)
= $80,000,000 cost per year
x 41.5% (UP share of cost)
= $33,200,000 initial annual cost to UP
x 60% (UP percent not passed on to customers)
= $19,000,000 pre-tax annual cost to UP
x 63% (non UP income-tax deduction portion)
= $12,500.000 net annual cost to UP, rounded to $13 million

In essence, for a UP net cost of no more than $13 million annually over a 25-year period, over 1,400 lives could be saved, 4,000 injuries avoided, and the risk of hazardous materials spills greatly reduced. Surely, the societal benefits of installing signals and lights are far in excess of the projected costs for the UP.

IX. UP can well afford to provide signals and gates at all of its passive crossings.

By any reasonable standard, the UP can well afford to fund the installation of signals and gates at its passive grade crossings. A $13 million annual expenditures pales in comparison with the tens of billions of dollars of UP cost reductions and inflation avoidance since deregulation, with the UP's own estimate of an annual savings of $660 million from the SP acquisition,[63] and with company earnings of up to a billion dollars annually. The $13 million is less than 3% of the UP's estimate of a $450 million (after tax) cost in 1997 due to post-merger congestion.[64] And the $13 million annual expenditure, even if multiplied by the 25-year life of signals and gates, resulting in an expenditure of $325 million, is but 2% of the $14 billion in increased shareholder value attributed by the UPC to its chairman who retired on January 1, 1997, and who was awarded a $4 million bonus and a five-year contract as a consultant.[65]

Consider the comparison of a $13 million annual cost to the UP with some financial statistics from its 1996 performance (the year prior to the SP inclusion):

Financial Measure in 1996	Amount[66]	%13 Million Is:
1. Railroad Operating Revenue	$6.7 Billion	0.19%
2. Railroad Operating Expense	5.2 Billion	0.25
3. Net Railroad Operating Income	1.0 Billion	1.30
4. Net Shareholders' Equity	5.6 Billion	0.23
5. Net Investment	14.0 Billion	0.09
6. Cash Flow From Operations	1.6 Billion	0.81

Furthermore, the $13 million is less than the cash bonuses given to UPC executives in each year between 1993 and 1996, and is minute in contrast to the $4.1 billion purchase price of the SP and even the $525 million that UP invested in Mexican railroads in 1988.

Finally, two additional comparative points are relevant. First, even if the $13 million were paid out of dividends, it would not have a meaningful effect on investors. For example, in 1996 the $1.72 annual dividend[67] would have been reduced by 5 cents (1 cent per quarter to $1.67, thereby generating $13.7 million from the 274,595,151 shares[68] of common stock. And second, the grade-crossing upgrades could have been furnished out of UP surplus profits. For instance, in 1996 the UP's executive bonus program was triggered at an 10% ROE, with maximum bonuses ending at a 12% ROE. Thus, when the UP earned a 17% ROE in that year, it realized a

5 percentage point premium, or *surplus* above the maximum-bonus level. Applying the 5% premium to shareholders' equity valued at $8 billion in 1996 results in about $400 million of premium earnings in a single year – enough to pay the entire $325 million UP cost of installing signals and gates at 20,000 grade crossings.

X. The failure of the UP to invest in adequate grade-crossing safety is detrimental to those people crossing the track structure and living near grade crossings.

Based on the quantitative and qualitative evidence in this report, it is clear that the UP could well have afforded to install signals and gates at all of its passive grade crossings, and that the benefits to society from such installations would have outweighed the costs. Instead, the UP shirked its public responsibility by choosing solely economic gains over saving lives. Railroad economics and public responsibility are not an *either/or* choice. Rather, a reasonable balance is required which is absent in the case of the UP.

It appears that the UP believed that the economic benefits of investing in adequate grade-crossing safety did not warrant the cost. Consequently, the UP used tens of billions of dollars derived from cost cutting (mainly from terminating employees) to: (1) reward top executives for their cost-cutting successes, (2) pay other employees relatively highly compensation. (3) provide larger returns and dividends to its investors, (4) increase its already-substantial market share by purchasing other

major railroads, and (5) constrain prices to selected customers. The large amounts associated with these actions are in stark contrast to the UP's lack of expenditures on the installation of adequate grade-crossing facilities.

The UP's policy of denying responsibility for adequate grade-crossing safety and inappropriately relying on a limited public funding program not only leads to inadequate capital investment, maintenance, and personnel levels related to grade crossings, it also breeds an overall staff attitude of ambivalence and negligence. The end result is increased risk to the people and goods crossing UP's track structure. It is no wonder that as stated in the UP's 1997 annual report to shareholders. *FRA reviewed UPRR's operations and concluded that safety problems at UPRR were the result of amount other things a less of focus on safety personnel shortages and crew management problems.*

ENDNOTES

1. In fact, as early as 1837 a court found that railroads have a *public nature.* In *Bloodgood v. The Mohawk & Hudson Railroad Co.*, 48 Wendell (N.Y.) 9.21. a New York courted stated: *Because the legislature permitted the company to remunerate itself for the expense of constructing the road, from those who should travel upon it, its private character is not established; it does not destroy the public nature of the road, or convert it from a public to a private use.*
2. Like other railroads, the UP (including its predecessors) received free land surveys, the right of eminent domain, land grants, low-interest loans, bond guarantees, tax exemptions, and cash grants. In fact, according to the 1934 *Report of the Federal Coordinator*

of Transportation, the UP and two of its recently-acquired railroads – the Southern Pacific and Chicago & North Western – collectively received 52 million acres of land grants.

3. Immunity from the antitrust legislation governing other industries (Sherman Act, Clayton Act and Federal Trade Commission Act) was provided to railroads through the Transportation Act of 1920 (Title 49, chapter 107, Subchapter 1, Section 10706). According to Frank N. Wilner, in *Railroad Mergers, History, Analysis Insight* Simmons-Boardman Books, Inc., 1997, pp. 35-36) *Every railroad unification approved by the ICC would be immune from antitrust challenge.* Indeed, the ICC wasted no time in telling trust busters to keep their distance and the Supreme Court corrected any misunderstanding in stating: *There can be little doubt that the Commission is not to measure (unification proposals by the standards of the antitrust laws . . . congress authorized such consolidations because it recognized that in some circumstances they were appropriate for effectuation of the national transportation policy.*

4. The *Railway Labor Act of 1926* (44 Stat. 577, 45 U.S.C. 151), protects railroads from prolonged work stoppages. Since World War II, there have been only five nation-wide railroad strikes with a total of 10 lost work days.

5. Unlike other industries, if railroads and airlines file for bankruptcy, their financed rolling stock returns to the creditors. *The filing of a security interest in railroad rolling stock with the ICC pursuant to 49 USC 11303 creates a right for a creditor holding that interest to take possession of such rolling stock upon default, notwithstanding that the carrier has entered bankruptcy proceedings.* (U.S. Code, Title II, USCA, Section No. 1168.)

6. At various times throughout their history, railroads have received public subsidies. The UP interlines with a number of such railroads.

7. The railroad industry is virtually the only industry in the United States to come under the *Federal Employee's Liability Act* (FELA), enacted in 1908. Seamen come under the Jones Act, which incorporates FELA provisions: The federal government enacted no-fault compensation for its employees in 1916, and for longshoremen and harbor workers in 1927 under the Longshoremen's and Harbor Workers' Compensation Act. The 50 states have no-fault compensation for all other employees.

8. The *Railroad Unemployment Insurance Act* was enacted in 1938. Non-railroad workers are covered by state programs which are part of a federal-state system.

9. Rather than being part of the nation's Social Security system, railroad employees are covered by the *Railroad Retirement Act* of 1934.

10. The *National Transportation Policy* was initially stated as the preamble to the *Transportation Act of 1940,* but many other expressions of such a policy have been forthcoming from Congress and the U.S. Department of Transportation since that time.

11. *Federal-Aid Highway Act of 1973,* Public Law 93-87; 87 STAT. 250. 1973.

12. U.S. Department of Transportation, Federal Highway Administration. *Railroad-Highway Grade Crossing Handbook.* August 1978, p. 68.

13. Association of American Railroads. *Analysis of Class 1 Railroad 1998.* p. 96.

14. U.S. Department of Transportation. Federal Railroad Administration. *Railroad Safety Statistics, Annual Report 1997.* Table 9-1.

15. *Analysis 1998, op. cit.,* p. 95.

16. Based on an average train weight of 5,400 tons and an average automobile weight of 1.8 tons.

17. The author of this report is familiar with the STB's analysis in this area because he was the chairman of a quality-control committee which oversaw the preparation of the Board's *Draft Environmental Impact Statement* regarding the UP acquisition of the SP.

18. *Staggers Rail Act of 1980,* Public Law 96-448, 96th Congress, 49 USC 10101, October 14, 1980.

19. Other railroad legislation included the *Rail Passenger Service Act of 1970* (creating Amtrak and freeing railroads from huge passenger-service losses), the *Regional Railroad Reorganization Act of 1973* (aiding and reorganizing financially depressed railroads), and the *Railroad Revitalization and Regulatory Reform Act of 1976* (liberalizing economic regulation).

20. *Staggers Rail Act: op. cit.,* Section 2, "Findings," (6).

21. Data on the plight of railroads include Congressional hearings, reports by the Association of American Railroads, studies by federal government agencies, and a host of research papers published in such journals as the *Transportation Research Forum Proceedings.*

22. Conrail was formed out of the *Regional Rail Reorganization Act of 1973* and created by an act of Congress in 1976.

23. *Staggers Rail Act, op. cit.,* Section 2.

24. *Analysis of Class I railroads, op cit.,* 1978, 1979, 1980.

25. *Ibid.,* 1980.

26. *Ibid.*

27. *Ibid.,* Line 743, p. 162.

28. The year 1996 is used instead of 1997 or 1998 because the latter two years include temporal operating expenses caused by the problems associated with UP's acquisition if the SP.

29. *Analysis of Class I Railroads, op cit.,* 1996. Line 743, p. 91.

30. Railroad inflation is measured by the *Railroad Cost Recovery Index,* (RCR) calculated and published quarterly by the Association of American Railroads. In 1980 the RCR was 140.1 as compared with 263.0 in 1996. 267.1 in 1997 and 270.9 in 1998. The 88% increase in railroad inflation between 1980 and 1996 is derived at by divided the 263.0 index figure in 1996 by the 140.1 figure in 1980. See Association of American Railroads. *Railroad Ten-Year Trends 1980-1989* p. 74 and *1988-1997,* p. 70.

31. *Analysis of Class I Railroads, op. cit,* 1966, page 95.

32. Based on data published in the annual *Analysis of Class Railroads,* the following UP employment changes were calculated:

    a. 1980 - 1982: From 27,467 employees to 22,167 employees – a 5,300 reduction.

    b. 1982 - 1988: From 42,856 employees (UP: 22,167, MP: 18,321, WP: 2,368) to 32,636 employees – a 10,220 reduction.

c. 1988 - 1994: From 33,969 employees (UP: 32,636, MKT 1,333) to 28,946 employees – a 5,023 reduction.

d. 1994 - 1996: From 35,075 employees (UP: 28,946, CNW: 6,129) to 35,272 employees – a 197 increase.

e. 1996 - 1998: From 53,647 employees (UP: 35,272, SP: 18,375) to 53,346 employees – a 301 reduction.

33. *Analysis of Class I Railroads, op. cit.*, 1980 and 1998.

34. The average annual wage of the UP in 1998 was $54,496. Is was estimated that fringe benefits add another 33%, or $17,984, to wages, resulting in $72,480 annual average compensation. The 33% fringe-benefit premium was adopted because it was the difference between all-railroad annual average wages and all-railroad annual average compensation, as provided by the Association of American Railroads, in *Railroad Ten-Year Trends*, for the year 1997.

35. According to Union Pacific Corporation's 1993 *Proxy Statement* to the Securities & Exchange Commission. *The results from continuing operations of the Company must produce a return on average annual stockholders' equity before accounting changes of at least 8%. An 8% ROE allows 1.5% of net income to be credited to the reserve fund. An ROE of 10% or greater allows crediting a maximum of 3% of net income to the fund ROE between 8% and 10% adds to the base 1.5% credit. .75% of net income for each .1% increase in ROE.*

36. Union Pacific Corporation, *Proxy Statements* to the Securities & Exchange Commission, 1993-1996.

37. *Ibid.*, 1997, p. 21.

38. The 1980 UP average compensation was calculated by adding 23.5% fringe benefits the railroad industry average) to UP's annual average salaries for "executives" of $36,626. The 1998 figure is similarly calculated by using a $68,135 reported salary figure and adding 33% in fringe benefits. Data were taken from *Analysis of Class I Railroads, op. cit.*, 1980 and 1998.

39. The GDP (Gross Domestic Product) Implicit Price Deflator increased from 60.3 in 1980 to 112.7 in 1998, equating to 87%. *Economic Report of the President*, February 1999.

40. Retention stock is an outright grant of stock which is subject to forfeiture if a UP executive terminates employment before a 3-year period elapses.

41. This goal is stated by the UP Corporation in its *Proxy Statements*.

42. Union Pacific Corporation, *Proxy Statement*, 1995, p. 22.

43. *Ibid.*, p. 23.

44. According to the UP's annual reports (R-1's) to the Interstate Commerce Commission, the railroad recorded $660 million of special charges in 1986 and $745 million in 1991.

45. *Analysis of Class I Railroads 1980, op. cit.*, p. 72.

46. Based on a 23.5% spread of fringe benefits over wages for all railroad employees, as reported by the Association of American Railroads in, *Railroad Ten-Year Trends 1988-1989*, p. 101.

47. Based on a 33% spread of fringe benefits over wages for all railroad employees, as reported by the Association of American Railroads in *Railroad Ten-Year Trends*, 1989-1998.

48. UP acquisitions since 1980 are as follows, with prices from *Moody's Transportation Manual* (New York: Moody's Investor Service), annual publications, and Union Pacific Corporation annual reports to Security & Exchange Commission.

Year	Railroad(s) Acquired	Price Paid
1980	100 miles of Milwaukee Railroad	$19 million
1982	Missouri Pacific Railroad	$1 billion
1982	Western Pacific Railroad	(both
1988	Missouri Kansas Texas Railroad	$117 million
1995	Chicago & North Western Railroad remaining 71.6%)	$1.2 billion
1996	Southern Pacific Railroad (including St. Louis Southwestern and Denver & Rio Grande railroads)	$4.1 billion ($1.6 bil. cash
1998	50-year concession for rail lines in Mexico	$525 million

49. *Analysis of Class I Railroads, op cit.*, 1980 and 1998.

50. *Ibid.*

51. *Ibid.* Also includes 1995, 1996, and 1997.

52. *Ibid.*, annual publications.

Year	ROE	Year	ROE
1980	10.7%	1985	9.5%
1981	10.31	1986	*
1982	6.2	1987	13.5
1983	6.0	1988	14.7
1984	6.5	1989	14.8

Year	ROE	Year	ROE
1990	13.3%	1995	16.7%
1991	*	1996	16.6
1992	15.4	1997	7.0
1993	11.3	1998	0.3
1994	15.1		

*significant special charges taken

53. *Ibid.*

Year	Dividends	Year	Dividends
1981	$73 Mil.	1986	$140 Mil.
1982	77	1987	190
1983	82	1988	204
1984	82	1989	234
1985	73	1990	236

Year	Dividends	Year	Dividends
1991	$240 Mil.	1996	$1,971
1992	270	1997	449
1993	290	1998	320
1994	294		
1995	331		

54. *Ibid.*, 1980 and 1988.

55. *Ibid.*

56. *Railroad Safety statistics, op. cit.*, 1997, Table 9-3.

57. UP (including its acquired railroads) maintenance expenses at grade crossings are reported in Schedule 410. *Railway Operating Expenses,* of railroad annual reports filed with the Interstate Commerce Commission from 1980-1995 and the Surface Transportation Board since 1996.

58. *Ibid.*

59. *Railroad Safety Statistics, op. cit.*, Table 1-13.

60. *Ibid.*, Table 7-9.

61. U.S. Department of Transportation, *Railroad-Highway Grade Cross Handbooks*, 1986, 2nd edition. p. 104.

62. *Ibid.*

63. Union Pacific Corporation, *Annual Report* (to shareholders), 1995, p. 1.

64. *Ibid.*, 1997.

65. *Ibid.*

66. *Analysis of Class I Railroads 1996, op. cit.*

67. Union Pacific Corporation, *Annual Report* (to shareholders), 1996, p. 34.

68. *Ibid.*, p. 37.

Attachment No. 1

QUALIFICATIONS OF DR. HARVEY A. LEVINE

Dr. Harvey A. Levine was born in 1939 and raised in Pittsburgh, Pennsylvania. The second oldest of four children and the son of a newspaper circulation manager, he attended the University of Pittsburgh on a Senatorial Scholarship, earning a Bachelor of Business Administration degree with a major in transportation economics in 1961. His practical experience in the transportation field began in 1959 as a summer employee in the traffic department of Westinghouse Electric Corporation, auditing railroad and motor carrier freight bills. In the summer of 1960, he accepted a similar position with Charles Donoley & Associates, a local transportation auditing firm.

In 1961, Dr Levine was awarded to graduate fellowship at Duquesne University where in 1963 he completed his course work for the degree of Master of Business Administration. He then accepted a management internship with the Atomic Energy Commission and was assigned to the Pittsburgh Naval Reactor Office, Department of Core Procurement where he became a contract administrator. He graduated from Duquesne in 1964 after completing a dissertation on railroad rate-making practices.

In 1965, Dr. Levine began his transportation career by joining the New York Central Railroad as a Market Research Analyst and was thereafter promoted to Assistant Director of Pricing Research. In 1967 he took a leave of absence from the railroad to become the Fletcher Fellow in Transportation at the American University in Washington, D.C. and began his studies for a Ph.D. in transportation economics. While a graduate fellow at the university, aside from teaching duties, he consulted to: (1) the Office of High Speed Transportation. U.S. Department of Transportation, where he aided in the design, collection and analysis of rail passenger data in the Northeast Corridor, (2) EBS Management Consultants, where he participated in a study to extend the Alaskan Railroad, directed a analysis of the physical distribution system of the ITT Corporation, studied the freight potential of the Port of Providence, helped design a transportation plan for the Southeastern Virginia Regional Planning Commission, and assisted in preparing economic testimony before the Interstate Commerce Commission, (3) Air Priority Dispatch, Inc., where he helped develop a business plan for air cargo service, and (4) the Common Carrier

Conference of the American Trucking Associations, Inc., and the Rocky Mountain Motor Freight Bureau, where he provided general economic consultation.

In 1968, Dr. Levine became the Deputy Director of Transportation and Urban Affairs, for the Planning Research Corporation, McLean, Virginia, thereby terminating his leave from the New York Central Railroad. Studies he directed and participated in included: estimating housing needs for the Department of Housing and Urban Development, evaluating the impacts on small towns from programs developed by the Economic Development Administration, developing an urban planning model for regional development agencies, and projecting air cargo traffic and equipment requirements for the Federal Aviation Agency.

Dr. Levine joined the U.S. Department of Transportation as the Senior Economist in the Office of the Secretary in 1970. Aside from his transportation research. Dr. Levine served as the Department's representative to the Federal Price Commission created by President Nixon, and continued his part-time college teaching, adding a course at Howard University. In 1972, he completed his dissertation on the revenue-adequate standards for Motor carriers and received a Ph.D. in business Administration, with an emphasis on transportation economics. Dr. Levine then transferred to the Interstate Commerce Commission to become Chief, Special Projects Branch, Bureau of Economics. He oversaw two major projects: the investigation of the railroad rate structure and the development of the railroad rate base and rate-of-return measures. He continued to teach courses at the American and Howard universities.

In 1973, Dr. Levine became a Senior Associate with R. L. Banks & Associates, Inc. – a Washington, D.C. transportation consulting firm, and was later promoted to Vice President. At R. L. Banks, among other studies, Dr. Levine conducted research for D.C. Transit Systems, the Southeastern Pennsylvania Transit Authority, the Grand Trunk Western Railroad, the Untied States Railway Association, a major motor carrier, the U.S. Department of Transportation, and the National Transportation Policy Study Commission. Based on his efforts for the Study Commission, he published his first book entitled. *National Transportation Policy: A Study of Studies*, in 1978. Between 1973 and 1976. Dr. Levine continued to teach business courses at Howard University and in 1976, developed a course in transportation economics which he taught to lawyers from the Office of Proceedings, Interstate Commerce Commission. During his six years with R. L. Banks, Dr. Levine testified before the Interstate Commerce Commission, the Railroad Commission of Texas, and the Washington Area Metropolitan Transit Commission.

In 1979, Dr. Levine became the Vice President, Economics & Finance Department, Association of American Railroads (AAR), where for the next 18 years he directed a staff of up to 42 economists, accountants, auditors, statisticians, financial analysts, and data processors. He co-authored a second book entitled, *Small Railroads*, published in 1982 and became Chairman of the Pension Board, Administrative Office to the Railroad Treasury Division, Administrative Officer to the Railroad Accounting Division, Chairman of the AAR Training Committee, Chief Economist to the Railroad Tax Policy Committee, railroad representative on the National Transportation

Stakeholders' Group, a member of the AAR Policy Committee, a member of the Education Board of the ENO Foundation (a transportation research center), and the railroads' representative on a research-exchange mission to the Soviet Union, accompanying the Federal Railroad Administrator. Based on that trip, he published a treatise entitled, *The USSR, and its Railroad System.*

At the AAR, Dr. Levine taught courses in railroad economics, policy and finance, and diversity training to AAR staff, gave numerous presentations, met with many foreign railroad dignitaries, developed and maintained statistical data bases, and authored countless papers and reports. Furthermore, he provided written testimony to the Interstate Commerce Commission, Surface Transportation Board. Presidential Emergency Board, the California State Equalization Board, and a District Court in Texas. He gave depositions to the latter two entities.

Dr. Levine's department at the AAR served as the central agency of the railroad industry for the collection, processing, distribution and analysis of economic and financial data. In addition, the department assisted the railroad industry in conducting research in support of policy positions by managing a regulatory-cost center, conducting a host of tasks affiliated with interline service, and representing the industry in regulatory proceedings. In his capacity as Chief Economist of the railroad industry, Dr. Levine represented railroads in among other areas, general rate proceedings, the Rail Cost Adjustment Factor, productivity, revenue adequacy, labor economics, the cost of capital, and credit terms. He designed and developed the railroad inflation index used by railroads

for permissive rate increase and contract-rate adjustments. Furthermore, he initiated three of the Association's major data bases and publications: *Analysis of Class I Railroads, Ten-Year Trends,* and *Profiles of Railroads in the United States* (a personal computer data base of all 500-plus freight railroads in this country).

After voluntarily taking an early retirement from the AAR in early 1997, Dr. Levine began his own consulting practice. Aside from conducting research for the AAR in 1997, 1998 and the first part of 1999, Dr. Levine has served clients such as: DeLeuw Cather & Associates (Parsons Transportation), where he was chairman of a quality control committee overseeing the environmental impact analysis associated with the Union Pacific Railroad's acquisition of the Southern Pacific Railroad, and the CSX and NS railroads' acquisition of Conrail; R. L. Banks & Associates, Inc.; and the Dakota Eastern & Minnesota Railroad.

While always aware of railroad safety issues and involved in safety statistics at the ARR, Dr. Levine became keenly interested in the subject of grade-crossing safety while conducting research on the Randolph Road crossing in his resident town of Rockville, Maryland.

REDUCTION OF MAINTENANCE-OF-WAY EMPLOYEES[1] AND SAVINGS OF COMPENSATION: UNION PACIFIC RAILROAD

Year	Number of Employees	Annual Change in Employment	Cumulative Reduction in Employment	Average[2] Annual Compensation	Annual Savings of Compensation
1980	5,316			$24,300	
1981	5,244	- 72	72	26,326	$ 1,895,472
1982	4,169	- 1,075	1,147	30,579	30,195,922
1983	4,257	- 88	1,059	33,167	35,123,853
1984	4,308	- 51	1,008	36,188	36,477,504
1985	4,080	- 228	1,236	35,817	44,269,812
1985	9,104[3]				
1986	7,235	- 1,869	3,105	40,614	126,106,470
1987	6,397	- 838	3,943	42,983	169,481,969
1988	6,618	- 221	3,722	43,208	160,820,176
1988	6,898[4]				
1989	7,012	- 114	3,608	42,704	154,076,032
1990	7,012	0	3,608	44,486	160,505,488
1991	6,948	- 64	3,672	48,419	177,794,568
1992	6,771	- 177	3,849	47,985	184,694,265
1993	6,589	- 182	4,031	48,652	200,147,212
1994	6,528	- 61	4,092	49,153	201,134,076
1994	8,012[5]				
1995	7,935	- 77	4,169	51,987	216,733,803
1996	8,194	- 259	3,910	56,020	219,038,200
1996	11,628[6]				
1997	12,115	- 487	3,423	56,635	193,861,605
1998	11,346	- 769	4,192	58,181	243,894,752
Totals		**4,192 Terminated Employees**			$2,556,151,179 **= $2.6 Billion**

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[1] "Maintenance of Way and Structures," as reported by the Association of American Railroads in the annual publications of Analysis of Class I Railroads.

[2] Ibid. for wages. Fringes added to wages based on ratio of total compensation to wages for all Class I Railroads as reported by the Association of American Railroads in Ten-Year Trends.

[3] Year prior to consolidated reporting of acquired railroads: (MP and WP: 4,080 and 596 employees).

[4] Year prior to consolidated reporting of acquired railroad (MKT: 280 employees).

[5] Year prior to consolidated reporting of acquired railroad (C&NW: 1,484 employees).

[6] Year prior to consolidated reporting of acquired railroad (SP: 3,434 employees).

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APPENDIX 10

EXHIBIT 22

THE
BNSF RAILROAD
AND
GRADE-CROSSING SAFETY

Report By:

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October 1999

EL6 This report addresses the question as to whether the economic practices and policies of the Burlington Northern Santa Fe Railroad (BNSF)[1] have adversely affected the level of safety at its grade crossings. Based on an analysis of empirical evidence since 1980, and the author's knowledge of national transportation policy and railroad economics, the report concludes that:

1. The Staggers Rail Act of 1980 gave freight railroads industry the financial opportunity to provide adequate and safe service.

2. Since BNSF's financial performance was substantially above the average railroad when the Staggers Rail Act was enacted, its financial opportunity was extraordinary.

3. BNSF proceeded to engage in massive cost cutting led by draconian downsizing of its labor force, resulting in the savings of tens of billions of dollars.

4. BNSF's emphasis on cost cutting in order to maximize profits, was directed by its executives, who had financial incentives to do so, and who were richly rewarded for their efforts.

5. The cost cutting and profit maximization were extended to BNSF grade crossings as many maintenance-of-way employees were terminated, and in that the railroad refused to accept responsibility for determining the need for, and funding of, safety devices.

6. Instead, BNSF inappropriately relied on a limited public program for the determination and funding of safety devices at its grade crossings.

7. BNSF's reliance on the government conflicts with the logic of shared existence, its public responsibility, and judicial findings.

8. Furthermore, BNSF could well have afforded to install the safest of all devices – automated gates – at all of its 17,000 passive grade crossings.

9. From a societal perspective, the benefits of such installations would have outweighed the costs.

10. Safety consciousness at BNSF grade crossings is compromised by that railroad's economic policies.

11. Adverse impacts from BNSF's policies and procedures toward grade-crossing safety would most likely be experienced at its non-gated crossings.

12. Thus, in the case of its grade crossings, BNSF chose short-run economic gains over the savings of lives, and the lessening of personal injury and property damage.

1. THE STAGGERS RAIL ACT OF 1980 GAVE FREIGHT RAILROADS THE FINANCIAL OPPORTUNITY TO PROVIDE ADEQUATE AND SAFE SERVICE.

The Staggers Rail Act of 1980 (Staggers)[2] deregulated much of the railroad industry's economic behavior and culminated a decade of favorable railroad legislation.[3] The Act (Section 6) recognized that railroad earnings were *insufficient to generate funds for necessary capital improvements,* somewhat excusing the industry for past investment shortfalls, but indicating that the anticipated turnaround would require railroads to fulfill their economic and social obligations.

The *Rail Transportation Policy* section of Staggers identified expected benefits of railroad deregulation which would accrue to four parties: (1) Shippers were to receive reasonable rates, sound transportation, and the avoidance of undue concentration of market power. (2) Investors were to realize adequate returns. (3) Employees were to receive *fair wages and safe and suitable working conditions, and (4)* The public was to enjoy a rail transportation system *without detriment to the public health and safety* (emphasis added by author).

The relationship between a railroad's financial posture and the level of safety it provides is patently obvious and has long been recognized in transportation circles. During the general decline of the railroad industry in the decades preceding Staggers, numerous studies cited the danger of deferred maintenance being accumulated by railroads. Two such major efforts were: (1) the *Doyle Report* of 1961,[4] a comprehensive Congressional study

which called for the need of railroad regulatory reform, and (2) the railroads' ASTRO report in 1970, which stressed that improved earnings were needed to eliminate inadequate capital investment, and concluding that it was in the public interest to have financially-healthy railroads.[5] Similarly, Section 3 of Staggers stated that: *The purpose of this Act is to provide for the restoration, maintenance, and improvement of the physical facilities and financial stability of the rail system of the United States.* Clearly, one of the societal expectations of financially-sound railroads was that they would make adequate expenditures and capital investment in order to provide safe operations and facilities for those who use and are affected by their operations.

2. SINCE BNSF'S FINANCIAL PERFORMANCE WAS SUBSTANTIALLY ABOVE THE AVERAGE RAILROAD WHEN THE STAGGERS RAIL ACT WAS ENACTED, ITS FINANCIAL OPPORTUNITY WAS EXTRAORDINARY.

With much of the railroad industry in the financial doldrums during the 1970's, it was not surprising that Staggers (Section 2) stated that railroad earnings were *the lowest of any transportation mode and . . . insufficient to generate funds for necessary capital improvements,* and that without the legislation railroads would experience a capital shortfall of $16-$20 billion by 1985. However, BNSF was an exception to the overall dismal financial performance of the railroad industry. As shown below. BNSF enjoyed rates of return on equity (ROE) – that is rates of profit to shareholders after all operating expenses, interest payments, and taxes are paid – which were 86%

greater than the railroad industry as a whole during the 1978-1980 period.[6]

Year	Rate of Return on Equity: All Railroads	Rate of Return on Equity: BNSF[7]	Percentage BNSF Greater Than Industry
1978	1.3%	5.9%	354%
1979	5.4	8.5	57
1980	6.0	9.0	50
Three-year Average	4.2%	7.8%	86%

Furthermore, in 1980 BNSF ranked first in the railroad industry in terms of traffic (ton-miles). first in miles of road operated, second in freight revenue, second in net railroad operating income, second in ordinary income, and second in net investment.[8] Clearly, at the time that Staggers was enacted, the BNSF was one of the country's largest and most profitable railroads. Thus, BNSF was given an extraordinary opportunity to further increase its earnings and fulfill its responsibilities, including that of providing safe grade crossings.

3. YET, BNSF PROCEEDED TO ENGAGE IN MASSIVE COST CUTTING LED BY DRACONIAN DOWNSIZING OF ITS LABOR FORCE, RESULTING IN THE SAVINGS OF TENS OF BILLIONS OF DOLLARS.

Despite its relative financial strength, BNSF reacted to its newly-found economic freedom under Staggers to massively slash costs. In 1980, BNSF's cost of producing a ton-mile of traffic was 1.74 cents,[9] while in 1998 the figure dropped to 1.45 cents,[10] equating to a 0.29 cent reduction and 17% decline in operating costs over the 18 years.

Even more startling is that the 17% cost reduction was made in the face of a 93% increase in railroad inflation.[11] Consequently, the 1.45-cent cost in 1998 is equivalent to 0.75 cents in 1980 dollars (inflation index of 100/193 x 1.45 cents), so that in inflation-adjusted terms, BNSF's cost savings in 1998 compared with 1980 is .99 cents (1.74 cents minus 0.75 cents), amounting to a **57% reduction in operating costs.**

Table No. 1 identifies the annual and cumulative levels of operating expenses that BNSF avoided by cutting costs since 1980. While this table appears to be a complex statistical presentation, its constructions is relatively straight forward. Column 1 lists BNSF's annual annual [sic] operating expense per unit of traffic (ton-miles) provided. Column 2 identifies the railroad inflation rate, in order to convert the expenses in Column 1 to inflation-adjusted (constant) dollars. Column 3 performs this task by dividing Column 1 by Column 2. Column 4 is a calculation of BNSF's annual expense savings, resulting from subtracting Column 3 from the 1.74 cent cost in 1980, shown in Column 1. Column 5 identifies the annual ton-miles of traffic produced by BNSF. And Column 6 presents the total annual savings by multiplying the ton-miles in Column 5 by the savings per ton-mile in Column 4. The overall result is a total savings of about $30 billion from 1980 through 1998. Since some of the savings resulted from economies associated with increased traffic volumes, the savings from cost cutting is actually less than $30 billion, but is certainly the majority of the total amount. For purposes of this paper, it is sufficient to conclude that **BNSF's cost cutting since deregulation in 1980 probably saved the railroad tens of billions of dollars in operating expenses.**

Table No. 1

RESULTS OF BNSF COST CUTTING SINCE 1980

Year	1/ Freight Expense Per Revenue Ton-Mile (Cents)	2/ Railroad Inflation Index	3/ Inflation-Adjusted Expense Per Revenue Ton-Mile (Cents)	4/ Inflation-Adjusted Savings Per Revenue Ton-Mile (Cents)	5/ Revenue Ton-Miles (Billions)	6/ Total Annual Savings ($Millions)
1980	1.74 cts	100.0	1.74 cts	-	155.6	-
1981	2.17	112.5	1.93	(0.19 cts)	156.6	($298)
1982	2.21	120.1	1.84	(0.10)	157.7	(158)
1983	1.90	125.3	1.52	0.22	172.3	379
1984	1.72	129.7	1.33	0.41	200.6	823
1985	1.75	131.3	1.33	0.41	184.0	754
1986	1.70 7/	132.3	1.28	0.46	187.2	861
1987	1.65	136.5	1.21	0.53	206.3	1,093
1988	1.70	143.7	1.18	0.56	223.5	1,252
1989	1.68	150.0	1.12	0.62	232.5	1,442
1990	1.72	157.5	1.09	0.65	234.3	1,523
1991	1.72 8/	161.3	1.07	0.67	232.4	1,557
1992	1.72	168.7	1.01	0.73	230.8	1,685
1993	1.69	170.0	0.99	0.75	237.3	1,780
1994	1.58	172.5	0.92	0.82	260.6	2,137
1995	1.58 9/	180.5	0.88	0.86	293.4	2,523
1996	1.58	187.7	0.85	0.89	411.1	3,659
1997	1.55 10/	190.6	0.81	0.95	424.6	4,034
1998	1.45	193.4	0.75	0.99	469.0	4,643
Total Cost Avoidance						**$29,689**

Rounded to $30 Billion

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Table No. 1 – Continued

[1/]
Association of American Railroads. *Analysis of Class I Railroads,* annual publications.

[2/]
Railroad Cost Recovery Index published quarterly by the Association of American Railroads, and available in its annual publication. *Railroad Ten-Year Trends.*

[3/]
Column 1 divided by column 2.

[4/]
Column 3 subtracted from 1.74 cents, the 1980 freight expense per ton-mile (Column 1. 1980 figure).

[5/]
Analysis, op. cit.

[6/]
Column 4 multiplied by column 5.

[7/]
Midpoint between 1985 and 1987 figures due to $352 million of special charges included in 1986 reported operating expenses. Special charges from BNSF annual report (R-1) to Interstate Commerce Commission.

[8/]
Midpoint between 1990 and 1992 figures due to $708 million of special charges included in 1991 reported operating expenses. Special charges from BNSF annual report (R-1) to Interstate Commerce Commission.

[9/]
Midpoint between 1994 and 1996 figures due to $671 million of special charges included in 1995 reported operating expenses. Special charges from BNSF annual report (R-1) to Interstate Commerce Commission.

[10]/
Reported figure of 1.57 cents conservatively reduced to 1.55 cents due to $90 million of special charges included in 1997 operating expenses. Special charges from BNSF annual report (R-1) to Surface Transportation Board.

At the heart of the BNSF cost cutting was a significant reduction of its labor force. After adjusting employment levels for BNSF's acquisition of other railroads during the 1980s and 1990s, **BNSF employment declined by 29,592 employees from 1980 to 1998,** as shown in Table No. 2.[12] This table also reveals that 26,250 of the 29,592 reduced terminated employees, or 89%, were cut during the first seven years following Staggers.

While the size of the employment decline is itself noteworthy, what is also astonishing about these terminations is that BNSF traffic increased by over 200% during the 18-year period between 1980 and 1998.[13] If BNSF had retained the terminated employees and not hired any additional employees to handle the increases in traffic, and in 1998 provided those employees with the average annual compensation of $74,995,[14] the railroad would have incurred additional operating expenses of $2.2 billion in that single year alone. Accepting half of the $2.2 billion savings in 1998, or $1.1 billion, as the average annual savings over the 18-year period, the total BNSF savings due to employee terminations would amount to about $20 billion ($1.1 billion x 18 years). Thus, **labor reductions accounted for about two-thirds of the total $30 billion saved by BNSF since 1980.**

4. BNSF'S EMPHASIS ON COST CUTTING TO MAXIMIZE PROFITS, WAS DIRECTED BY ITS EXECUTIVES WHO HAD FINANCIAL INCENTIVES TO DO SO, AND WHO WERE RICHLY REWARDED FOR THEIR EFFORTS.

BNSF executives had major financial incentives to cut costs and maximize BNSF's profits. The incentives are detailed in BNSF's executive-compensation program. Executive pay at BNSF has two components: annual pay and long-term compensation, and a substantial portion of executive annual pay, and virtually all of long-term compensation, largely depends on the railroad's financial performance.

Annual executive compensation at BNSF is divided into what is referred to as *base salary* and *short-term incentives* – the latter commonly referred as *bonuses*. While base salary depends on the content of the position and a comparative analysis with other companies, bonuses depend on *specified goals and levels of achievement, all of which align with the enhancement of stockholder value.*[15] In regard to base salary, on average, **BNSF executive compensation increased by 197 percent from $47,217 in 1980 to $139,442 in 1998.**[16] This compares with a national inflation rate

Table No. 2

BNSF LABOR REDUCTION SINCE 1980

Year	Total Number of Employees	Change in Number of Employees
1980	56,540	
1981	52,828	- 3,712
1981*	55,347	
1982	46,015	- 9,332
1983	40,911	- 5,104
1984	39,793	- 1,118
1985	38,294	- 1,499
1986	35,110	- 3,184
1987	32,809	- 2,301
1988	32,402	- 407
1989	32,896	+ 494
1990	32,905	+ 9
1991	31,760	- 1,145
1992	31,204	- 556
1993	30,502	- 702
1994	30,711	+ 209
1995	30,671	- 40
1995**	45,556	
1996	43,731	- 1,825
1997	43,468	- 263
1998	44,352	+ 884
Total Employee Reduction		**- 29,592**

* Includes Colorado & Southern Railroad (848 employees) and Fort Worth & Denver Railroad (1,671 employees).

** Includes Santa Fe Railroad (14,985 employees).

of 87% over the 18-year period.[17] In reality, BNSF executives earned an average compensation in excess of the reported amount in 1998 because that number represented *executives, officials and staff assistants*, while in 1980, the figure was solely for *executives* – that is, there was a change in the reporting format between 1980 and 1998. Since executives earn more than officials and staff assistants, the reported 1998 executive compensation was understated as part of the broader category. Furthermore, when stock distributions are accounted for, BNSF executive compensation increases dramatically.

In regard to BNSF executive bonuses, the value can approach that of base-level salaries. For example, as shown below, in 1994 bonuses to BNSF's five highest-ranked executives averaged $344,172 compared with average base salaries of $375,102.[18] Thus, bonuses in that year equated to 92% of base salaries. Exact amounts of executive bonuses are determined annually by a compensation committee.

Executive	Base Salary	Bonus
CEO	$691,667	$790,860
EVP/Corp.	317,220	255,000
CFO	333,333	225,000
EVP/Law	272,125	225,000
EVP/Coal	259,167	225,000
Total	$1,875,512	$1,720,860
Average	$375,102	$344,172

Long-term BNSF compensation is provided in the form of stock options and restricted stock grants. According to BNSF's proxy statement to the Security & Exchange Commission (SEC). *Stock options reward and encourage*

effective leadership that contributes to the Company's long-term financial success, as measured by an appreciation in its stock price.[19] Similarly, grants of restricted stock:

> *provide long-term incentive compensation to executives in the form of Company stock, based on enhancing the Company's performance and stockholder value over an extended period. This plan is directly linked to our stockholders' interests.*[20]

Summing up their long-term executive compensation program, BNSF states that:

> *We believe all stockholders benefit when the Company is managed with a goal of maximizing the return to stockholders.* Stockholder return can only be maximized when executives are stockholders and, therefore, also conduct business in their own best self-interests.[21]

When stock grants presented to the five executives identified above are accounted for, a broader perspective of BNSF executive pay is revealed, as shown below:

Executive	Base Salary	Bonus	Stock Grants	Other	Total
CEO.	$691,667	$790,860	$783,750	$229,410	$2,495,687
EVP/Corp.	317,220	255,000	275,000		847,220
CFO	333,333	225,000	550,000		1,108,333
EVP/Law	272,125	225,000	225,500		722,625
EVP/Coal	259,167	225,000	203,500		687,667
Total	$1,873,512	$1,720,860	$2,037,750		$5,861,532
Average	$374,702	$344,172	$407,550		$1,172,306

The average executive base salary of $374,702 increases to $718,874 when bonuses are included ($374,702 plus $344,172), and to $1,172,306 when stock grants are also included. In essence, without accounting for stock-option distributions, the five highest ranking BNSF executives earned an average income of almost $1.2 million in 1994. What is particularly interesting about the above payments is that base salaries equated to only 32% of the executives' total compensation, excluding stock options. Thus, 68% of executive pay was tied to company financial performance and clearly cost cutting influenced such performance.

Aside from the $1.2 million average income, BNSF executives were (and are) also awarded stock options. In 1994, the above five executives received 130,500 shares of common stock in the form of stock options, which was worth $55 at that time, for a total value of $7.2 million, or $1.4 million per executive.[22] How much money executives earn from stock options depends on the increase in the value of the stock. In its 1995 proxy statement, BNSF showed that its stock had increased by over 77% in the preceding 5-year period. Assuming an annual increase of 15% in the value of the stock options, on average, the five executives would earn another $1.1 million annually ($7.2 million x 15%) from their 1994 stock options. This would raise the average top-five executive income in 1994 to $2.3 million ($1.2 million plus $1.1 million). And of course, other BNSF executives received bonuses, grants of stock, and stock options in 1994 and other years.

As a final indication of the magnitude of BNSF executive income, consider the cumulative shares of stock

owned by the outgoing Chairman/Chief Executive Officer of BNSF in 1995. As of March 10, 1995, he owned 1,043,838 shares of the company's stock.[23] While the stock price reached into the 80's during 1995, even at a price of say $70 per share, BNSF's Chairman would have owned over $73 million worth of stock. This represented about 1.2% of the total shares (and value) of BNSF stock; the highest ranking five BNSF executives owned 2.5% of the company's stock.[24]

What helped executives obtain rewards from cost cutting was a provision in Staggers which allowed railroads to freely make quarterly price increases up to the levels of the industry's rate of inflation.[25] This escalation basis was in lieu of rate changes tied to a unit-of-cost index – most notably, operating expense per ton-mile of traffic. Beginning in mid-1989, the Interstate Commerce Commission (ICC) required the railroad inflation index to be adjusted for productivity gains, and although still beneficial to railroads, its use as an industry-wide, tariff adjuster, dramatically declined. (The index is still used by railroads for contract-rate adjustments). Still, from 1980 to 1989, railroad inflation increased by 70%, while BNSF's operating expenses per ton-mile declined by 3%.[26] Consequently, BNSF could raise its freight rates up to 70% without ICC interference, even though it experienced a decline in operating costs. While not all BNSF freight rates increased by the allowable 70% (because of competition in some markets), rates accelerated enough to substantially increase the overall earnings of the railroad, thereby benefitting shareholders[27] and BNSF executives. Similarly, some BNSF customers benefitted from the cost cutting in the form of compressed freight rates.

Employees, other than executives, benefitted from higher compensation. And even those employees who were terminated, received some benefits in the form of substantial severance payments.

5. THE COST CUTTING AND PROFIT MAXIMIZATON [sic] WERE EXTENDED TO BNSF GRADE CROSSINGS AS MANY MAINTENANCE-OF-WAY EMPLOYEES WERE TERMINATED, AND IN THAT THE RAILROAD REFUSED TO ACCEPT RESPONSIBILITY FOR DETERMINING THE NEED FOR, AND THE FUNDING OF, SAFETY DEVICES.

Grade-crossing safety did not benefit from BNSF's massive cost cutting since the enactment of Staggers. In fact, the railroad terminated many employees who were responsible for maintaining its track structure and related facilities – the maintenance-of-way employees, classified as *Maintenance of Way and Structures.* As shown in Table No. 3, in spite of its railroad acquisitions after 1980, and a 200% increase in traffic, BNSF reduced its maintenance-of-way employment by 6,344 employees from 1980 to 1998.

From a broader perspective, there is no evidence of BNSF taking a leading posture to comprehensively evaluate its safety needs at grade-crossings, voluntarily upgrade its passive crossings to automated gated crossings, and/or adequately make a financial commitment to grade-crossing safety. To the contrary, as discussed in the following section of this report, BNSF supported the industry position that railroads were not responsible a number of significant aspects of grade-crossing safety.

Aside from BNSF's lack of voluntary capital expenditures at grade crossings, it appears that its maintenance expenses at those crossings declined by such a large amount, that the railroad's reported maintenance expenses are at best, highly questionable, and at worst, an indication as to the magnitude of BNSF cuts in its grade-crossing maintenance commitment. As shown below, the BNSF reported grade-crossing maintenance expenses of over $7 million in 1980, compared with under $2 million in 1997. On an expense-per-crossing basis, reported maintenance expenses dropped from $282 to $68 from 1980 to 1997. And when the railroad 91% inflation rate between 1980 and 1997 is accounted for, the maintenance cost per grade crossing declined by an incredible 87%.

Table No. 3

REDUCTIONS IN BNSF MAINTENANCE-OF-WAY EMPLOYEES SINCE 1980

Year	Number of Maintenance-of-Way Employees	Change in Number of Employees
1980	12,200	-
1981	11,607	- 593
1981*	13,037	
1982	10,548	- 2,489
1983	9,715	- 833
1984	9,442	- 273
1985	8,808	- 634
1986	7,940	- 868
1987	7,108	- 832
1988	6,991	- 117
1989	6,929	- 62
1990	6,923	- 6
1991	6,615	- 308
1992	6,847	+ 228
1993	6,970	+ 123
1994	7,201	+ 231
1995	7,073	- 128
1995**	10,551	
1996	10,573	+ 22
1997	10,522	- 51
1998	10,868	+ 246
Total Maintenance-of-Way Employee Reduction		**6,344**

* Includes Colorado & Southern Railroad (306 employees) and Fort Worth & Denver Railroad (531 employees).

** Includes Santa Fe Railroad (3,478 employees).

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		1980	1997
1.	BNSF maintenance expense at grade crossings	$7,244.000	$1,677,000[28]
2.	Number of crossings	25,714	24,764[29]
3.	Maintenance expense/ crossing	$282	$68
4.	Inflation-adjusted maintenance/crossing	$282	$36

6. INSTEAD, BNSF INAPPROPRIATELY RELIED ON A LIMITED PUBLIC PROGRAM FOR SUCH SAFETY-NEED DETERMINATIONS AND FUNDING.

Historically, the responsibility for grade-crossing safety was originally that of railroads, but as highways and motor traffic increased, railroads began to share the responsibility with highway administrators. The Federal-Aid Road Act of 1916 initially provided federal funds for eliminating hazards at grade crossings and since that time, public monies have continued to be available through a variety of legislation. In 1970, the Federal Rail Safety Act declared that among other things, *laws, regulations, orders, and standards relating to railroad safety shall be nationally uniform to the extent practicable.*[30] This legislation was followed by the Highway Safety Act of 1973, which required the states, in order to acquire federal funds for grade-crossing improvements, *conduct and systematically maintain a survey of all highways to identify those railroad crossings which may require separation, relocation, or protective devices and implement a schedule of projects for this purpose.*[31] Furthermore, the federally-funded changes (improvements) to be made at grade crossings were to be

in compliance with the *Manual on Uniform Traffic Control Devices* (MUTCD)[32] – a *compendium of uniform standards for design and use of traffic control devices by public authorities and officials having jurisdiction over traffic operations.*[33] As part of the railroad industry's position on grade-crossing, safety responsibility, 1970 and 1973 legislation collectively were cited as evidence that the federal government preempted state laws affecting railroad safety at grade crossings. In essence, in BNSF's mind, if the federal government was responsible for determining the safety needs at all grade-crossing, BNSF would be free from that and related aspects of grade-crossing safety. However, the combination of federal funding for grade-crossing safety and the establishment of filtering federal monies through the states with the goal of uniformity of grade-crossing safety devices, did not absolve the railroad of its responsibility for safe grade crossings, for the following reasons.

1. Like many other federal-aide programs, the funding for grade-crossing safety was never designed to put the federal government in total control of the activity it was helping to fund. The federal criteria established to receive federal funds for grade-crossing improvements should not be confused with judgments about the adequacy of safety levels at all grade crossings in the United States.

2. The federal aid to grade-crossing safety beginning in 1973, was little more than an extension of a program which had existed for many years, and nothing in any legislation – including the 1973 Act – concluded that grade-crossing safety was to be an exclusive public responsibility.

3. The level of federal funds for grade-crossing safety has been limited and their distribution has been based on criteria other than safety needs. This is because 50% of the funding is distributed to states based on the number of crossings in each state, 25% is based on the population of urban areas, and 25% on general measures, evenly divided among size of area, population of rural areas, and rural delivery and intercity mail route mileage); 0.5% of federal monies is the minimum allocated to any state.[34]

4. Filtering federal money through the states does not in itself constitute a federal grade-crossing standard; it is simply a way to distribute the money.

5. There is no consistency among the states as to how they determine which grade-crossings projects to undertake and fund. In fact, some states do not use all of their allotted grade-crossing funds for grade-crossing improvements, and

6. Grade-crossings moneys generally meet the exceptions of the Highway Safety Act (see above). By their very nature, grade crossings are local in character and both railroad and publicly-sponsored improvements in grade-crossing safety can easily conform to federal rules and not create an under burden on interstate transportation.

The author of this paper is a long-time student of national transportation policy and in 1982 published a book on the subject.[35] He has continued to review national transportation policy statements, federal transportation legislation, and related studies since 1982 and finds no public authority excusing the railroads from their responsibility to provide safe grade crossings.

7. BNSF'S RELIANCE ON THE GOVERNMENT CONFLICTS WITH THE LOGIC OF SHARED EXISTENCE, ITS PUBLIC RESPONSIBILITY, AND JUDICIAL FINDINGS.

Aside from the fact that the Federal Rail Safety Act of 1970, the Highway Safety Act of 1973, and/or the MUTCD do not release BNSF from its grade-crossing safety responsibility, there are a number of reasons why the BNSF is responsible for safety at its grade crossings. As discussed below: (1) It is simply logical for two or more parties which share a facility, service, and/or location, to also share the responsibility for safety. (2) BNSF has been vested with a *public nature* and thus, a responsibility to the public which licensed it, subsidized it, and to which it serves, and (3) Many judicial findings, including a recent one by the U.S. Supreme Court, have upheld the notion that railroads are responsible for determining safety needs at grade crossings.

Logic of Shared Existence

It is patently logical to conclude that when two modes of transportation intersect each other, those modes have a shared responsibility for safety at those intersections (crossings). After all, if it were not for either of the modes, there would be no crossings and thus, no related accidents. BNSF is the country's largest railroad, ranking 1st in traffic handled, 2nd in miles of road operated. 1st in freight revenue, and 1st in income.[36] With trains outweighing automobiles by a 3,000-to-1 ratio[37] and allegedly taking a mile or so to stop, it is incumbent upon BNSF to provide adequate safety to those crossing its

publicly-vested track structure. When one considers that BNSF is the only entity passing through its many grade crossings on a daily basis, it becomes clear that BNSF has a major role in providing and maintaining reasonably safe grade crossings.

Public Responsibility

Unlike most other companies in the United States, BNSF has an inherent *public nature*.[38] While privately owned, BNSF was birthed and developed in the mid-1800s with massive public aide.[39] Then in 1887, the federal government regulated railroads in a manner different than other industries and has continued to treat railroads as a rather unique industry. Railroads are immune from antitrust laws affecting other industries. They benefit from special anti-strike legislation.[40] bankruptcy provisions[41] and public-assistance.[42] Railroad employees fall under their own workers' compensation, unemployment insurance, and retirement systems, rather than being under state programs and federal social security. And the country's *National Transportation policy*[43] and other transportation legislation reflects the public nature of railroads. It is little wonder that railroad reporting to the ICC, and now the Surface Transportation Board (STB), provides the public with a plethora of detailed railroad financial and operational information.

The public nature of BNSF is not a one-way street as it has obligations to the public which licensed and is affected by it. From an economic viewpoint, BNSF has a common-carrier obligation and must provide joint rates,

through routes, non-discriminatory service and reasonable rates. To society, it must provide safe facilities and operations, notwithstanding federal assistance. In fact, five years after the initiation of federal assistance for grade-crossing facilities,[44] the Federal Highway Administration (FHA) affirmed that railroads have responsibility for improving grade-crossing safety. More specifically, in **1978 the FHA stated that:** ***It may be expected that as the financial condition of an individual railroad deteriorates or improves, the company's commitment to grade crossing improvement financing will change.***[45]

Judicial Findings

The liability of railroads in grade-crossing accidents has been documented in judicial verdicts, settlements and opinions. Railroad responsibility can range from a low percentage of total liability to 100% of the amount. For example, a railroad was sued by its conductor and found to be 10% at fault in a collision because there was insufficient room for a stopped semitrailer between the railroads tracks and the crossing highway.[46] In another case, a jury found a railroad to be 42% responsible because the railroad failed to install automatic gates and replace 8-inch flashing lights with 12-inch flashing lights at the crossing.[47] Similarly, a railroad was found to be 50% responsible for an accident in which it did not instruct its engineers to slow the engine before the crossing, and had removed a flagman at the crossing who had previously been there.[48] And a railroad was held to be 100% liable in case where a *ultrahazardous* crossing lacked active warning devices.[49]

A number of judicial decisions have held that railroads have a common law duty to maintain safe grade crossings.[50] For example, as one court stated: . . . *there is no case law or legislative history to support the theory that Congress intended to completely occupy the field of railroad safety governance.*[51] Furthermore, the Supreme Court ruled in the *Easterwood Case* that just because MUTCD must be complied with as a component of federal funding of grade crossings, does not exclude railroads from adhering to state laws governing their responsibility for grade-crossing safety: more specifically, the Court stated that:

> *Preemption is not established by 23 CRF 646.214 (b)(1)'s requirement that the States comply with the Manual on Uniform traffic Control Devices for Streets and Highways and by the Manual's declaration that the States determine the need for, and type of, safety devices to be installed at a grade crossing.*[52]

In essence, MUTCD provides for uniformity in the design of safety devices at grade crossings in respect of federal funding, but such minimum standards do not preclude railroads from fulfilling their responsibilities at grade crossings, including compliance with state laws.

8. FURTHERMORE, BNSF COULD WELL HAVE AFFORDED TO INSTALL THE SAFEST OF ALL DEVICES – AUTOMATED GATES – AT ALL OF ITS 17,000 PASSIVE GRADE CROSSINGS.

It is estimated that the net (after tax) cost to BNSF of installing signals and gates at its 17,000 passive grade crossings over the 25-year expected life of those facilities, would approximate $275 million, or $11 million (rounded

upward) annually. The calculations presented below are based on:

17,000 passive grade crossings
x $100 thousand (installation cost per crossing)[53]
= $1.7 billion (total cost)
/ 25 years (life of signals and gates)
= $68 million (annual cost)
x 41.5% (BNSF share of cost)
= $28 million (initial BNSF annual cost)
x 60% (BNSF % not passed on to customers)
= $17 million (BNSF pre-tax annual cost)
x 63% (non BNSF income-tax deduction portion)
= $11 million (BNSF net annual cost)

(1) an average installation cost of $100,000 per signal and gate set, (2) a 25-year facility life for accounting purposes, (3) BNSF paying 41.5% of the installation costs, representing the midpoint between 33% and 50% – sound arguments can be made for either number – (4) BNSF's ability to pass on 40% of the installation costs to its customers where demand is relatively less competitive, and (5) a BNSF combined state-and-federal income tax rate of 37%.

By any reasonable standard, BNSF could well have afforded to fund the installation of signals and gates at its passive grade crossings. An $11 million annual expenditure pales in comparison with the tens of billions of dollars of BNSF cost reductions and inflation avoidance since deregulation, its $1.4 billion of net railroad operating income and $1.2 billion of net income in 1998,[54] and the $3.3 billion it paid to purchase the Santa Fe Railroad

in 1995. Furthermore, the $11 million is less than the annual bonuses given to BNSF executives.

Even if the $11 million were paid out of dividends, there would be no meaningful effect on investors. For example, in 1998 the BNSF's $1.44 dividend 55 would have been reduced by 7 cents (1-2 cents per quarter) to $1.37 thereby generating $11 million from the 157 million shares of common stock. Furthermore, the BNSF dividend increased by 20% in 1998 from 1.20 in 1997 to $1.44 in 1998. The $24 million in increased dividend payouts was enough to pay for more than two years of BNSF gate installations. And finally, as shown below, an annual BNSF payment of $11 million equates to: (1) $60 for a family with an annual income of $50,000; (2) $280 to a family with a net worth of $200,000, and (3) $1,162 to a family with a combined balance of $10,000 in its savings and checking accounts.

	BNSF		
Operating Revenue:	$8.9 Billion	x .0012	= $11 Million
Shareholders' Equity:	$7.6 Billion	x .0014	= $11 Million
Cash on Hand:	$94.7 Million	x .1162	= $11 Million

A Hypothetical Family

Annual Earnings:	$50,000	x .0012	= $60
Net Worth:	$200,000	x .0014	= $280
Savings/ Checking Accounts:	$10,000	x .1162	= $1,162

In essence, no matter what means of financial analysis or comparison is applied, it is clear that BNSF could well have afforded to have taken a pro-active position regarding grade-crossing safety, and could have significantly improved safety at those crossings. It is no wonder that in its 1998 annual report, BNSF chairman Rob Krebs told his stockholders: ***No matter what measure is used, 1998 was a record-breaking year for BNSF."***

9. FROM A SOCIETAL PERSPECTIVE, THE BENEFITS OF SUCH INSTALLATIONS WOULD HAVE OUTWEIGHED THE COSTS.

Over the past five years of accident data (1993-1997) reported to the Federal Railroad Administration (FRA), BNSF experienced an annual average 106 fatalities and 245 injuries at its grade crossings, accounting for 19% and 14% respectively of the industry totals.[56] For the railroad industry as a whole, 80% of the grade-crossings accidents occur where there are no gates.[57] Evidence indicates that many of these accidents would have been avoided if gates had been installed. For example, FRA statistics show that the grade-crossing accident rates by traffic volume, are 10 times higher for stop signs and 5 times

higher for cross bucks, than they are for gates, as shown below:

Device	Accidents Per 100 AADT[58]	% of Devices[59]
- Stop signs	5.01	7%
- Cross bucks	2.46	48
- Bells, etc.	1.09	1
- Other	0.85	-
- Flashing lights	0.75	18
- **Gates**	**0.53**	**20**
- Unknown	0.34	3
- Special warning	0.33	3
Totals	1.00	100%

The above data confirms what the FRA had discovered in 1986 when it declared that: *Active traffic control devices have proven to be an effective method of improving safety and operations at railroad-highway grade crossings.*[60] The FRA position was based on its 1980 study showing the upgrading from passive to automatic gates to be 85% effective[61] – that is, resulting in an 85% reduction in accidents.

Based on the above data, by installing gates (and signals) at its passive crossings, BNSF could have been expected to eliminate a majority of its 106 average annual grade-crossing deaths and 245 injuries. Even if the impact from signals and gates was only a 50% reduction in accidents, over the 25-year expected life of a crossing gate, about 1,325 lives would be saved and over 3,060 injuries avoided. Other savings from gated crossings would include the costs to the railroad, expenses incurred by local communities, the cost of damaged cargo, and

possibly the catastrophic consequences of a major hazardous materials event.

There are numerous and widely varying estimates of the value of lives and estimating the cost of injuries, hazardous-materials spills, etc., is far from being a precise undertaking. For purposes of this report, it is sufficient to simply conclude that if BNSF installed signals and gates at its passive crossings, **countless billions of dollars of societal benefits would be realized.**

10. SAFETY CONSCIOUSNESS AT BNSF GRADE CROSSINGS IS COMPROMISED BY THAT RAILROAD'S ECONOMIC POLICIES.

BNSF's posture in regard to grade-crossing safety is consistent with its emphasis on cost cutting during the past two decades. The railroad seems to view grade crossings as an evil to be eliminated, and which otherwise should not require much in the way of railroad resources. After all, the BNSF's positions are that: (1) it is the government who should determine grade-crossing safety needs, (2) it is the government who should fund grade-crossing improvements, and (3) it is the motorist who is responsible for grade-crossing accidents. What is left for the BNSF to do is to follow FRA safety standards (which it is required by law to do), cut its vegetation, and provide some very modest funds to help educate motorists.[62] Furthermore, BNSF will fund some grade-crossing improvements – including the installation of automated gates – where it perceives some economic gain, such as a condtition [sic] for a railroad acquisition or merger.

Clearly, **BNSF's economic gains and safety at grade crossings are often mutually exclusive events.**

BNSF's mentality of denial and cost minimization, could be expected to lead to a company culture where safety consciousness at grade crossings could readily be compromised. This does not mean that BNSF employees are not at all concerned with safety, for there are many other aspects of railroad safety, and even in the case of grade crossings, there are some aspects of safety which BNSF seems to address. Rather, it means that the responsibility for grade-crossing safety has been presented to employees in such a narrow, limited, and negative context that they are apt to give it less thought, attention, and time, than it so properly deserves.

11. ADVERSE IMPACTS FROM BNSF'S POLICIES AND PROCEDURES TOWARD GRADE-CROSSING SAFETY WOULD MOST LIKELY BE EXPERIENCED AT ITS NON-GATED CROSSINGS.

The failure to adequately plan, lead, fund, maintain, repair, replace, observe, recognize, and/or communicate, can occur at any time and anywhere at BNSF's thousands of grade crossings, but the impact of such actions are more likely to be adverse at non-gated crossings. This is because non-gate crossings are less safe than passive crossings, and similarly, because automatic gates can mask what otherwise would be contributing factors to an accident. Furthermore, educational efforts directed at motorists have little, if any, impact on improving safety at passive grade crossings.

As discussed in Section 9 above, gate grade crossings are far much safer than passive crossings – for obvious reasons. Motorists know that a train is coming when a crossing gate is lowered. This is not necessarily the case for passive crossings. For example, in a study in Tennessee, it was found that:

> *54 percent of the drivers contacted believe that if a crossing does not have a signal, it is rarely used by trains. This may affect the driving behavior of those drivers as they approach passive crossings. Drivers who believe that signals are placed at all crossings that are regularly used by trains would logically be expected to drive as if they had the right-of-way unless they see a flashing signal or a lowered gate.*[63]

Furthermore, there are many contributing factors to accidents at non-gated grade crossings which would not result in accidents at gated crossings – that is, automated gates can mask human error (the railroad, motorist, and/or the highway administrator), as well as minimizing otherwise unsafe conditions. For example, even though a motorist's sight line may be obstructed, automated gates would most likely stop that motorist from advancing through the crossing. The same can be said when there is inclement weather, failure of the train engineer to blow the warning devices on time, and overly-grown vegetation along either the railroad track or highway.

Finally, it cannot be expected that attempting to educate motorists through such programs as "Operation Lifesaver," can materially, if at all, lower the safety risk at passive crossings. In fact, a relatively recent study sponsored by the Minnesota Department of Transportation

and undertaken by the University of Minnesota, concluded that there was ***no evidence that additional education programs or public awareness campaigns have any lasting effect on the frequency of grade accidents.***[64] Furthermore, the study noted that passive grade-crossing safety improvements were not effective, if those crossings remained passive. The study stated that:

> *We found no evidence suggesting that bigger or brighter or other modifications of traditional signs or signals led to favorable changes in drivers' behavior at grade crossings.*[65]

Thus, passive grade crossings are not nearly as safe as gated grade crossings and they cannot be expected to be made safer through motorist education. BNSF's denial of responsibility for planning and funding the activation of passive crossings has a significant adverse impact on meeting the continuing safety needs of those crossings.

12. THUS, IN THE CASE OF GRADE CROSSINGS, BNSF CHOSE ECONOMIC GAINS OVER THE SAVING OF LIVES, PERSONAL INJURIES AND PROPERTY DAMAGE.

BNSF could well have afforded to install automated gates at all of its passive grade crossings, and the benefits to society from such installations would have outweighed the costs. Furthermore, BNSF could have afforded to initiate a program of grade-crossing safety where it identified needs at its crossings. Instead, BNSF shirked its public responsibility by choosing solely economic gains over saving lives, personal injuries and property damage. Railroad economics and public responsibility are not an

either/or choice. Rather, a reasonable balance is required, which is absent in the case of BNSF. Such a balance is not a priority of the railroad industry in general, or BNSF in particular, as demonstrated by the following reaction of the AAR to a judicial decision in grade-crosing [sic] litigation.

> *Its the state highway people who decided to put highways over the railroad tracks. They're the highway safety experts. We didn't put the highway in, and frankly, we would prefer that it not be there.*[66]

It is obvious that BNSF believed that the economic benefits of investing in adequate grade-crossing safety did not warrant the cost. Consequently, it used tens of billions of dollars derived from cost cutting (mainly from terminating employees) to: (1) reward top executives for their costcutting successes, (2) provide larger returns and dividends to its investors, (3) increase its already substantial market share by purchasing other railroads – especially, the SF, and (4) constrain prices to selected customers. The large amounts associated with these actions are in stark contrast to BNSF's voluntary lack of expenditures on the installation of adequate grade-crossing facilities, and its apparent reduction in maintenance expenses at its grade crossings.

BNSF's policy of denying responsibility for adequate grade-crossing safety and inappropriately relying on a limited public funding program not only leads to inadequate capital investment, maintenance, and personnel levels related to grade crossings, it also breeds an overall staff attitude of ambivalence and negligence. The end result is increased risk to the people and goods crossing BNSF's track structure.

ENDNOTES

1. The acquisition of the Atchison Topeka and Santa Fe Railway Company (SF) by the Burlington Northern Railroad Company, approved by the Interstate Commerce Commission on September 22, 1995 resulted in the formulation of the Burlington Northern Santa Fe Corporation – referred to as BNSF. Statistical data presented in this paper represents the Burlington Northern Railroad (BN) from 1980 to 1995, and the BNSF beginning in 1996, although all references to such statistics will be for the BNSF.

2. *Staggers Rail Act of 1980*, Public Law 96-448, 96th Congress, 49 USC 10101, October 14, 1980.

3. Other railroad legislation included the *Rail Passenger Service Act of 1970* (creating Amtrak and freeing railroads from huge passenger-service losses), the *Regional Railroad Reorganization Act of 1973* (aiding and reorganizing financially depressed railroads). and the *Railroad Revitalization and Regulatory Reform Act of 1976* (liberalizing regulation).

4. *National Transportation Policy*, Report of the Committee on Commerce, United States Senate, by the Special Study Group on Transportation Policies in the United States, 86th Congress, June 26, 1961. A second report was published in 1974 updating the 1970 report and focussing on capital. needs.

5. Association of American Railroads, *ASTRO Report*, America's Sound Transportation Review Committee, July 24, 1970.

6. The BNSF's 1980 ROE includes the St. Louis-San Francisco Railroad which was acquired by the BN in November 1980.

7. Association of American Railroads, *Analysis of Class I Railroads*, 1978, 1979, 1980.

8. *Ibid.*, 1980.

9. *Ibid.*, p. 162.

10. *Ibid*, 1996, p. 91.

11. Railroad inflation is measured by the *Railroad Cost Recovery Index*, (RCR) calculated and published quarterly by the Association of American Railroads. In 1980 the RCR was 140.1 as compared with 263.0 in 1996, 267.1 in 1997 and 270.9 in 1998. The 88% increase in railroad inflation between 1980 and 1996 is derived at by divided the 263.0 index figure in 1996 by the 140.1 figure in 1980. See Association of American Railroads, *Railroad Ten-Year Trends 1980-1989* p. 74 and *1988-1997*, p. 70.

12. Aside from the SF, the BN acquired two railroads on January 1, 1982: the Colorado and Southern and the Fort Worth and Denver.

13. *Analysis, op. cit.*, annual publications.

14. The average annual wage of the BNSF in 1995 was $556,387. It is estimated that fringe benefits add another 33%, or $18,608, to wages, resulting in $74,995 annual average compensation. The 33% fringe-benefit premium was adopted because it was the difference between all-railroad annual average wages and all-railroad annual average compensation, as provided by the Association of American Railroads, in *Railroad Ten-Year Trends*, for the year 1997.

15. *Proxy Statement* (to SEC), BNI, March 10, 1995 (for year 1994), p. 18.

16. The 1980 BNSF average compensation was calculated by adding 23.5% fringe benefits (the railroad industry average) to BNSF's annual average salaries for "executives" of $38,239. The 1998 figure is similarly calculated by using a $104,843 reported salary

figure and adding 33% in fringe benefits. Data were taken from *Analysis, op. cit.*, 1980 and 1998.

17. The GDP (Gross Domestic Product) Implicit Price Deflator increased from 60.3 in 1980 to 112.7 in 1998, equating to 87%. *Economic Report of the President*, February 1999.

18. *Proxy Statement, op. cit.*, p. 17.

19. *Ibid*, p. 24.

20. *Ibid.*

21. *Ibid.*

22. *Ibid.*, p. 10.

23. *Ibid.*, p. 8.

24. *Ibid.*

25. Inflation measures the prices of resources, not the total cost of those resources. For example, inflation measures the hourly wages paid to employees and the price per gallon of fuel. While wages and fuel prices may increases, costs may fall because of employee downsizing and increased fuel efficiency.

26. BNSF freight operating expenses per ton-mile declined from 2.74 cents in 1980 to 1.68 cents in 1989. *Analysis, op. cit.* 1980 and 1989.

27. Equity investors benefitted in a variety of ways. According to the *Analysis, op. cit.*, from 1980 to 1998, BNSF's share of the railroad market increased as follows: miles operated, from 15:3% to 17.0%; operating revenue, from 12.2% to 16.5%; and, revenue ton-miles, from 16.9% to 22.9%. Second, BNSF's net railroad operating income increased from $210 million in 1980 to about $473 million in 1998. Third, BNSF'S ROE increased from 5.9% in 1980 to levels generally in the 14%-17% range in the 1990s. And

finally. BNSF paid out over $100 million in dividends annually.

28. BNSF maintenance expenses at grade crossings are reported in Schedule 410. *Railway Operating Expenses*, of railroad annual reports filed with the Interstate Commerce Commission from 1980-1995 and the Surface Transportation Board since 1996.

29. U.S. Department of Transportation, Federal Railroad Administration, *Highway-Rail Crossing Accident/Incident and Inventory Bulletin* 1980 and U.S. Department of Transportation, Federal Railroad Administration, *Railroad Safety Statistics*, 1977.

30. *Federal Rail Safety Act*, Public law 91-458, 84 Stat. 971, October 16, 1970.

31. *Highway Safety Act of 1973*, 23 U.S.C., Section 130.

32. National Committee on Uniform Traffic Control Devices, *Manual on Uniform Traffic Control Devices*, U.S. Department of Transportation, Federal Highway Administration.

33. Archie C. Burnham Jr. and Bernard S. Abrams. *Roadway Through the MUTCD*, Lawyers & Judges Publishing Company, Inc., 1998, p. v.

34. *Highway Safety Act of 1973, Ibid.*, Section 104(b)(2)(6).

35. Harvey A. Levine, *National Transportation Policy: A Study of Studies*, (Lexington Books: D.C. Heath and Company: Lexington, Massachusetts), 1982.

36. *Analysis 1998, op. cit.*, p. 95.

37. Based on an average train weight of 5,400 tons and an average automobile weight of 1.8 tons.

38. In fact, as early as 1837 a court found that railroads have a public nature. In *Bloodgood v. The Mohawk & Hudson Railroad (Co.)*, 18 Wendell (N.Y.) 9, 21, a New

York courted stated: *Because the legislature permitted the company to remunerate itself for the expense of constructing the road, from those who should travel upon it, its private character is not established; it does not destroy the public nature of the road, or convert it from a public to a private use.*

39. Like other railroads, BNSF (including its predecessors) received free land surveys, the right of eminent domain, land grants, low-interest loans, bond guarantees, tax exemptions, and cash grants. In fact, according to the 1934 *Report of the Federal Coordinator of Transportation*, the BNSF (including the SF) received 61 million acres of land grants, equating to 47% of the 130 million acres received by all railroads.

40. The *Railway Labor Act of 1926* (44 Stat. 577, 45 U.S.C. 151), protects railroads from prolonged work stoppages. Since World War II, there have been only five nation-wide railroad strikes with a total of 10 lost work days.

41. Unlike other industries, if railroads and airlines file for bankruptcy, their financed rolling stock returns to the creditors. *The filing of a security interest in railroad rolling stock with the ICC pursuant to 49 USC 11303 creates a right for a creditor holding that interest to take possession of such rolling stock upon default, notwithstanding that the carrier has entered bankruptcy proceedings.* (U.S. Code, Title II, USCA, Section No. 1168.)

42. At various times throughout their history, railroads have received public subsidies. BNSF interlines with a number of such railroads.

43. The *National Transportation Policy* was initially stated as the preamble to the *Transportation Act of 1940*, but many other expressions of such a policy have been

forthcoming from Congress and the U.S. Department of Transportation since that time.

44. *Federal-Aid Highway Act of 1973*, Public Law 93-87; 87 STAT. 250, 1973.

45. U.S Department of Transportation, Federal Highway Administration, *Railroad-Highway Grade Crossing Handbook*, August 1978, p. 68.

46. *Plumber v. Murphy Trucking Co. Mo.*, Jackson County Cir. Ct., No. CV94-14667, September 9, 1996.

47. *Isbell v. State, Ariz.*, Maricopa County Super. Ct., No. CV 91-19192, November 3, 1997.

48. *Roberts v. Consolidated Rail Corporation*, U.S. District Court, N.D.N.Y., No. 85-CV-08, September 14, 1988.

49. *Cruz v. Atchison, Topeka & Santa Fe Ry.*, Tex., El Paso County Ct. At Law, No. 94-8483, September 19, 1997.

50. *Runkle v. Burlington Northern*, 188 Montana, 186, 613 P. 2d 982, 1980. *Brown v. Missouri Pacific Railroad*, 543 F. Supp. 348, W.D. Arkansas, 1982, and *Karl v. Burlington Northern Inc.*, 880 F. 2d 68, 76, 8th Cir., 1989.

51. *Ibid., Karl.*

52. *CSX Transportation v. Easterwood*, 113 S. Ct. 1732 (1993).

53. Inquiries by the author of this paper as to the cost of automating passive grade crossings ranged from $50,000 to $150,000. A number of individuals echoed the conclusions of a study in Oregon which found that the railroad's stated cost of installation may exceed that of a contractor's by more than 150%. (Gregory A. Malkasian, "Regulatory Issues – Crossing Safety in Oregon," *Proceedings 1992, op. cit.*, p. 63.)

54. *Analysis, op cit.*, 1998.

55. The actual dividend in 1998 was 48 cents. but because of a 3-for-1 stock split, it is equivalent to $1.44 compared with 1997.

56. *Railroad Safety Statistics, op. cit.*, Table I-13.

57. *Ibid.*, Table 7-9.

58. *Ibid.*, Table 8-2.

59. *Ibid.*, Table 8-3.

60. *Railroad-Highway Grade Crossing Handbook, op. cit.*, p. 104.

61. *Ibid.*

62. Operating Lifesaver is a public awareness program dedicated to motorist education about grade crossings. Started in 1972, the program is largely funded by the federal government, with the majority of other funds coming from the railroad industry.

63. John E. Tidwell, Jr., "Motorists' Understanding of Railroad-Highway Grade Crossings," *Proceedings 1990, op. cit.*, p. 369.

64. Stirling Stackhouse, University of Minnesota, Human Factors Research Laboratory, *Effectiveness of Marketing Campaigns for Grade Crossing Safety*, Minnesota Department of Transportation, September 1996.

65. *Ibid.*

66. Tom White, Association of American Railroads, as cited by Steve Jordan, Staff Writer, Omaha World-Herald Company, September 29, 1999.

APPENDIX 11

THE NORFOLK SOUTHERN RAILROAD AND GRADE-CROSSING SAFETY

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This report* addresses the attitude and behavior of the Norfolk Southern (NS) railroad in regard to its responsibility to provide for safe crossing of its track structure. The report concludes that:

1. Deregulation of railroads in 1980 provided the NS with an extraordinary opportunity to meet not only its economic obligations, but also its public responsibility to provide for adequate safety at its grade crossings.

2. Spurred by financial incentives to do so, NS executives used their newly-found freedom under deregulation to focus on economic gains

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* Unless otherwise noted, railroad statistics presented in this report derive from Class I railroad annual reports (R-1s) filed annually with the Surface Transportation Board. These data are processed, reformatted and sold by the Association of American Railroads (Washington, D.C.) in two annual publications which are extensively used in this report: *Analysis of Class I Railroads* (annual publications from 1978 to 1998) and *Ten-Year Trends* (1980-1989 and 1988-1987 editions).

by massively cutting operating expenses, thereby saving billions of dollars and gaining rewards for themselves and others.

3. At the same time, while it could well afford to do so, NS refused to accept responsibility for determining the need for, and funding of, safety devices at its grade crossings – instead, inappropriately relying on a limited federal-aid program for such endeavors.

4. NS's refusal to fully accept its responsibility for grade-crossing safety is in conflict with the logic of shared existence, the railroad's public nature and responsibility, and National Transportation Policy.

5. While public involvement in, and funding of, grade-crossing maters [sic] has been one of a number of factors contributing to the decline of grade-crossing accidents, it is inappropriate to treat that program as the sole identifier and primary financier of safety needs at such crossings.

6. In fact, if NS had accepted its public responsibility to provide for adequate safety at grade crossings, the accident rate would have been lower.

7. Thus, the proper balance between public and private responsibility for grade-crossing safety – especially when it involves a privately-owned-and-operated industry vested with a public responsibility – should not be undermined by overstating the scope of limited federal funding.

1. DEREGULATION OF RAILROADS IN 1980 PROVIDED THE NS WITH AN EXTRAORDINARY OPPORTUNITY TO NOT ONLY MEET ITS ECONOMIC OBLIGATIONS, BUT ALSO TO MEET ITS PUBLIC RESPONSIBILITY TO PROVIDE FOR ADEQUATE SAFETY AT ITS GRADE CROSSINGS.

The Staggers Rail Act of 1980 (PL 96-448) deregulated much of the railroad industry's economic behavior, culminating a decade of favorable railroad legislation. Section 6 of the Act recognized that railroad earnings were *insufficient to generate funds for necessary capital improvements,* somewhat excusing the industry for past investment shortfalls, but indicating that the anticipated turnaround would require railroads to fulfill their economic and social obligations.

The *Rail Transportation Policy* section of the Staggers Rail Act identified expected economic and social benefits which would accrue to four parties – the first three being economic beneficiaries: (1) shippers, or customers, were to receive reasonable rates, sound transportation, and the avoidance of undue concentration of market power, (2) investors, or shareholder's, were to realize adequate returns, and (3) employees were to receive *fair wages and safe and suitable working conditions.* In regard to societal benefits, the public was to enjoy a rail transportation system *without detriment to the public health and safety.* Railroad-highway grade crossings were not excluded from the *safety* goal.

The relationship between a railroad's financial posture and the safety it provides is patently obvious and has long been recognized. During the general decline of

the railroad industry in the 1950's, 60's and 70's, numerous studies cited the danger of deferred maintenance being accumulated by railroads. Two such major efforts were: (1) a report by the U.S. Senate's Committee of Commerce entitled, *National Transportation Policy* (June 26, 1961), which called for the need of railroad regulatory reform, and (2) the railroad industry's own report entitled, *America's Sound Transportation Review Organization* (July 24, 1970), which stressed that improved earnings were needed to eliminate inadequate capital investment, and concluding that it was in the public interest to have financially-healthy railroads. Similarly, Section 3 of the Staggers Rail Act stated that: *The purpose of this Act is to provide for the restoration, maintenance, and improvement of the physical facilities and financial stability of the rail system of the United States.* Specifically in regard to grade-crossing, in 1978 the Federal Highway Administration (FHA) stated in its *Railroad-Highway Grade Crossing Handbook* (August 1978, p. 68) that:

> *It may be expected that as the financial condition of an individual railroad deteriorates or improves, the company's commitment to grade crossing improvement financing will change.*

Clearly, one of the societal expectations of financially-sound railroads was that they would make adequate expenditures and capital investment in order to provide safe operations and facilities for those who use and are affected by their operations.

With much of the railroad industry in the financial doldrums during the 1970's, it was not surprising that the Staggers Rail Act (Section 2) stated that railroad earnings

were *the lowest of any transportation mode and . . . insufficient to generate funds for necessary capital improvements,* and that without the legislation railroads would experience a capital shortfall of $16-$20 billion by 1985. However, NS was an exception to the overall dismal financial performance of the railroad industry.

As shown below, the two pre-merged (1982) railroads enjoyed rates of return on equity – that is the returns to shareholders after all expenses, interest payments, and taxes are paid – which were more than three times the industry average between 1978 and 1980.

	Rate of Return On Equity		
Year	All Railroads	Norfolk & Western	Southern
1978	1.3%	14.1%	12.0%
1979	5.5	15.1	13.9
1980	6.0	15.7	14.1
Three-year Average	4.3%	15.0%	13.3%

Since the Staggers Rail Act was to stimulate a financial *turnaround* for the financially-deprived railroads, the NS, as a financially healthy railroad, was given an extraordinary opportunity to further increase its earnings and fulfill its responsibilities, including that of providing safe grade crossings.

2. SPURRED BY FINANCIAL INCENTIVES TO DO SO, NS EXECUTIVES USED THEIR NEWLY-FOUND FREEDOM UNDER DEREGULATION TO FOCUS ON ECONOMIC GAINS BY MASSIVELY CUTTING OPERATING EXPENSES, THEREBY SAVING BILLIONS OF DOLLARS AND GAINING REWARDS FOR THEMSELVES AND OTHERS.

Despite its financial strength, NS reacted to its newly-found economic freedom under deregulation by massively slashing operating expenses. Aside from the usual market pressures to cut costs, NS executives were spurred by a compensation program which aligned their interests with those of NS shareholders. This is because a significant portion of NS executive compensation is based on three equally-weighted financial measures which are averaged over a three-year period: (1) growth in earnings-per-share, (2) return on invested capital, and (3) operating ratio, measured absolutely and relative to other railroads. (See NS *Proxy Statements* filed with the Security & Exchange Commission.) NS bonuses, other annual compensation, and especially long-term compensation in the form of stock grants and stock options, are tied to the financial performance measures. Only salaries escape this dependency. Thus, even if NS was in a sound financial position when it was deregulated, there were strong incentives to cut costs and earn even higher earnings.

At the heart of NS cost cutting were substantial reductions in the labor force. In 1980, the two NS predecessors had a labor force of 43,339 employees as compared with only 23,323 employees in 1997. As a result of this reduction and other economic efficiencies, NS was

highly successful in reducing its operating expenses (adjusted for traffic) since 1980. In 1980, NS's cost of producing a ton-mile of traffic was 2.48 cents, while in 1997 the figure dropped to 2.21 cents, equating to an 11% reduction over the 17 years. What is even more startling is that the 11% cost reduction was made in the face of a 91% increase in railroad inflation. ("Railroad Cost Recovery Index," calculated and published quarterly by the Association of American Railroads). Consequently, the 2.21-cent cost in 1997 is equivalent to 1.15 cents in 1980 dollars (inflation index of 100/191 x 2.21 cents). Thus, in inflation-adjusted terms, NS's cost savings in 1997 compared with 1980 is 1.13 cents per-ton-mile (2.48 cents minus 1.15 cents), amounting to a 46% reduction in operating costs. In 1997 NS carried 136 billion ton-miles of traffic, so that the 1.15 cents-per-ton-mile savings in that year alone equated to $1.6 billion (1.15 cents x 136 billion ton-miles). While similar calculations can be made for the intervening years between 1980 and 1997, it is sufficient to conclude that NS cost cutting since deregulation saved the railroad billions of dollars.

There were a number of economic beneficiaries from the huge cost savings realized by NS since deregulation, as identified below.

1. *NS Executives*: While national inflation (as measured by the "Gross Domestic Product Implicit Price Deflator," published in the annual *Economic Report of the President*) increased by 86% from 1980 to 1997, NS average annual executive compensation – excluding stock grants and options – increased by more than 165%

during the same period. Furthermore, NS executives earned countless millions of dollars in long-term (stock) compensation.

2. *Other NS Employees*: The average NS employee enjoyed a 125% increase in annual compensation from 1980 to 1997.

3. *Railroad Shippers*: Customers benefitted from constrained pricing – that is, some rate reductions, and rate increases below the level of inflation. The NS freight-revenue-per-ton-mile was virtually the same in 1980 and 1997 in spite of the 86% increase in national inflation.

4. *NS Shareholders*: NS investors were rewarded with sustained relatively high earnings, increased dividends, and growth in corporate value. For example, over the past decade, NS net income has generally ranged in the $600-$750 million range, and annual dividends have steadily increased from 42 cents-per-share to 80 cents-per-share, in spite of several stock splits. (See Norfolk Southern Corporation 1998 annual report to stockholders). In fact, NS railroad net income rose to $859 million in 1997, even though the company experienced unusual expenditures related to its purchase of Conrail. Furthermore, the book value of NS shareholders' equity increased from $2.8 billion in 1980 to $6.0 billion in 1997. Consequently, the sound financial condition of NS gave the railroad the ability to expend about $6 billion in purchasing 58% of Conrail in 1998.

While the NS executive compensation may have *pulled* NS executives into a draconian costcutting program, what *pushed* them was a provision in the Staggers Rail Act which allowed railroads to freely make quarterly

price increases up to the levels of the industry's rate of inflation. This escalation basis was in lieu of rate changes tied to a unit-of-cost index – most notably, operating expense per ton-mile of traffic. Beginning in mid-1989, the Interstate Commerce Commission required the railroad inflation index to be adjusted for productivity gains, and although still beneficial to railroads, its use as an industry-wide, tariff adjuster, dramatically declined. Still, from 1980 to 1989, railroad inflation increased by 70%, while NS operating expenses per ton-mile increased by only 15%. Consequently, NS could raise its freight rates up to 55 percentage points greater than its cost increase (70%-15%), without regulatory interference. While not all NS freight rates increased by the allowable 70% (because of varying intensities of competition among transportation markets), rates accelerated enough to result in substantial earnings.

3. AT THE SAME TIME, WHILE IT COULD WELL AFFORD TO DO SO, NS REFUSED TO ACCEPT RESPONSIBILITY FOR DETERMINING THE NEED FOR, AND FUNDING OF, SAFETY DEVICES AT ITS GRADE CROSSINGS – INSTEAD, INAPPROPRIATELY RELYING ON A LIMITED FEDERAL-AID PROGRAM FOR SUCH ENDEAVORS.

While it is patently clear is that NS used its massive cost savings since deregulation to meet – and in fact, exceed – economic needs, but the railroad did not make an adequate commitment to grade-crossing safety. On the contrary, the NS attitude is generally expressed by a recent quotation from a representative of the Association

of American Railroads – the railroad industry's major trade association of which NS is one of the four key members – stating:

> *They're the highway safety experts. It's the state highway people who decided to put highways over the railroad tracks. They're the highway safety experts. We didn't put the highway in, and frankly, we would prefer that it not be there.* (Quote by Tom White, as cited by Steve Jordan, Staff Writer, Omaha World-Herald Company, September 29, 1999.

This attitude of, *We were there first*, and thus *the hundreds of thousands of miles of public roads is a nuisance to our operations*, is reminiscent of the 19th century railroad mogul William Vanderbilt's famous line in regard to accusations that his railroad was a monopoly – *The public be damned*.

NS's attitude and culture affecting grade-crossing safety is more specifically identified in company documents relating to the establishment of its Grade Crossing Safety Steering Committee. At the initial meeting of the Steering Committee on January 25, 1993, it was acknowledged that, *in 1989 and 1990 grade crossing accidents were the leading cause of train accident costs*. At the April 26, 1993 meeting of the Committee, it was revealed that the NS had led the industry for the past 6 years with the highest incident record of all railroads. The Committee also noted that, *other railroads have a great deal more success than Norfolk Southern in eliminating crossings*. In view of, and in fact in spite of, its own shortcomings, ensuing

Steering Committee meetings resulted in the establishment of three major NS goals regarding its grade crossings, as follows:

1. The public has the responsibility for identifying grade-crossing safety needs and for providing the overwhelming majority of funding for ensuing saving improvements, and the NS should maximize its use of public funds.

2. It is the motorist who is to blame for grade-crossing accidents, and NS will support motorist education through a centralized effort – largely funded with federal monies – entitled, *Operation Lifesaver*, and

3. NS prefers that grade crossings be closed and will induce such closure with the offer of a one-time payment to local communities.

These goals were part and parcel of an NS policy statement, established at the October 11, 1993 meeting of the NS Steering Committee, as follows:

> *Signal improvements are funded in whole or in part, with public monies. It is the goal of Norfolk Southern Corporation to achieve maximum participation in the use of these funds by actively encouraging local, state and federal governments to authorize and fund improvements at crossings on the NS system. In appropriate situations, corporate funds will be expended in order to facilitate crossing closure or to guarantee completion of a project which would otherwise fail to be implemented for lack of local matching funds.*

Such a policy leads the question as to whether the public program which NS relies upon for grade-crossing

safety determinations and ensuing funding, was intended to be the sole source for such activities. An examination of the limited nature of that program results in a resounding, *No* to that question.

In 1970, the Federal Rail Safety Act (Public Law 91-458, October 16, 1970) declared that among other things, *laws, regulations, orders, and standards relating to railroad safety shall be nationally uniform to the extent practicable*. This legislation was followed by the Highway Safety Act of 1973 (23 U.S.C. Section 130) which required the states, in order to acquire federal funds for grade-crossing improvements, *conduct and systematically maintain a survey of all highways to identify those railroad crossings which may require separation, relocation, or protective devices and implement a schedule of projects for this purpose.* Furthermore, the federally-funded changes (improvements) to be made at grade crossings were to be of a standard types in accordance with the *Manual on Uniform Traffic Control Devices* – a compendium of uniform standards for design and use of traffic control devices by public authorities and officials having jurisdiction over traffic operations At the same time, where desirable, nothing prohibited the railroad from seeking approval of an installation and total railroad financing of an active warning device that was not schedule to be installed by a public determination and funding. The railroad's proposed installation could still be approved by the appropriate state agency and still be in conformity with the Manual. In essence, the combination of federal funding for grade-crossing safety through the various states, and the goal of uniform grade-crossing safety devices, did not

absolve the NS from its responsibility for safe grade crossings because:

1. Like many other federal-aide programs, the funding for grade-crossing safety was never designed to put the federal government in total control of the activity it was helping to fund. The federal criteria established to allocate federal funds for grade-crossing improvements should not be confused with judgments about the adequacy of safety levels at all grade crossings in the United States.

2. The 1973 legislation was little more than an extension of a program which had existed for many years, and nothing in any legislation – including the 1973 Act – concluded that grade-crossing safety was to be an exclusive public responsibility.

3. The level of federal funds for grade-crossing safety has been limited and their distribution has been based on criteria other than safety needs. This is because 50% of the funding is distributed to states based on the number of crossings in each state, 25% is based on the population of urban areas, and 25% on general measures, evenly divided among size of area, population of rural areas, and rural delivery and intercity mail route mileage); 0.5% of federal monies is the minimum allocated to any state.

4. Filtering federal money through the states does not in itself constitute a federal grade-crossing standard; it is simply a way to distribute the money.

5. There is no consistency among the states as to how they determine which grade-crossing projects to undertake and fund. In fact, some

states do not use all of their allotted grade-crossing funds for grade-crossing improvements.

6. The sole reliance on a public program equates to a sole reliance of bureaucratic and sometimes time-consuming decisions potentially fraught with political considerations. (For example, see *Audit of Tennessee DOT*, reflecting the poorly operated program that the railroad relies on to replace its own responsibility for grade-crossing safety.) Where public dollars are limited and related programs are mismanaged, the railroad's duty is heightened, and

7. Grade-crossings moneys generally meet the exceptions of the Highway Safety Act. By their very nature, grade crossings are local in character and both railroad and publicly-sponsored improvements in grade-crossing safety can easily conform to federal rules and not create an under [sic] burden on interstate transportation.

4. NS'S REFUSAL TO FULLY ACCEPT ITS RESPONSIBILITY FOR GRADE-CROSSING SAFETY IS IN CONFLICT WITH THE LOGIC OF SHARED EXISTENCE, THE RAILROAD'S PUBLIC NATURE AND RESPONSIBILITY, AND NATIONAL TRANSPORTATION POLICY

Aside from the fact that the Federal Rail Safety Act of 1970, the Highway Safety Act of 1973, and/or the *Manual of Uniform Traffic Control Devices* do not release NS from its grade-crossing safety responsibility, there are a number of reasons why the NS is responsible for safety at its grade crossings. As discussed below: (1) It is simply logical for two or more parties which share a facility,

service, and/or location, to also share the responsibility for safety. (2) NS has been vested with a *public nature* and thus, a responsibility to the public which licensed it, subsidized it, and to which it serves, and (3) National Transportation Policy dictates that railroads have a responsibility for grade-crossing safety.

Logic of Shared Existence

It is patently logical to conclude that when two modes of transportation intersect each other, those modes have a shared responsibility for safety at those intersections (crossings). After all, if it were not for either of the modes, there would be no crossings and thus, no related accidents. NS is one of four dominant railroads in the country and one of two large railroads which handle the overwhelming portion of traffic in the eastern United States. With trains outweighing automobiles by a 3,000-to-1 ratio (based on average train weight of 5,400 tons and average automobile weight of 1.8 tons) and allegedly taking a mile or so to stop, it is incumbent upon NS to provide adequate safety to those crossing its publicly-vested track structure. When one considers that NS is the only entity passing through its many grade crossings on a daily basis, it becomes clear that NS has a major role in providing and maintaining reasonably safe grade crossings.

Public Responsibility

Unlike most other companies in the United States, NS has an inherent *public nature*. As early as 1837, a court

(*Bloodgood v. The Mohawk & Hudson Railroad Co.* 18 Wendell, N.Y. 9, 21) found such a *nature* in stating:

> *Because the legislature permitted the company to renumerate itself for the expense of constructing the road from those who should travel upon it, its private character is not established; it does not destroy the public nature of the road or convert it from a public to a private use.*

While privately owned, NS (actually, the predecessor railroads) was birthed and developed in the mid-1800s with massive public aide – ranging from outright grants of funds, to land grants, low interest loans, and tax exemptions. Then in 1887, the federal government regulated railroads in a manner different than other industries and has continued to treat railroads as a rather unique industry. Railroads are immune from antitrust laws affecting other industries. They benefit from special anti-strike legislation (under the Railway Labor Act of 1926), special bankruptcy provisions (U.S.C. 1168), and public-assistance. Railroad employees fall under their own workers' compensation, unemployment insurance, and retirement systems, rather than being under state programs and federal social security.

The public nature cf NS is not a one-way street as it has obligations to the public which licensed and is affected by it. From an economic viewpoint, NS has a common-carrier obligation and must provide joint rates, through routes, non-discriminatory service and reasonable rates. To society, it must provide safe facilities and operations, notwithstanding federal assistance. Grade crossings are railroad facilities which have not been excused from this societal obligation.

National Transportation Policy

The first official declaration of a National Transportation Policy was established as the preamble to the Transportation Act of 1940 (amending the Interstate Commerce Act of 1887). The 1940 policy statement was a broadly worded reference to the need for *safe* transportation service, as were many other subsequent policy statements emanating from the U.S. Department of Transportation. But specific expressions of national policy have also emerged, including the affirmation that railroads have responsibility for improving grade-crossing safety. For example, both the Interstate Commerce Commission and Surface Transportation Board have required railroads to upgrade safety at grade crossings, as a condition of proposed railroad mergers or acquisitions of other railroads. In some cases, railroads negotiated safety upgrades with local communities, fully aware that the regulatory agency desired such safety improvements. The point is, no matter what the reason for grade-crossing improvements related to railroad mergers, the railroad – and not the government – was required to finance the upgrades. These improvements included the installation of automated gates and lights. Most recently (in 1998), NS installed and financed improved safety devices at grade crossings, as a condition of its acquisition of part of Conrail. Clearly, the federal government has acknowledged that railroads share in the responsibility for grade-crossing safety. At the same time, there is no public policy and/or document that states that the government has the sole responsibility for grade-crossing safety, including the enabling 1973 legislation.

5. WHILE PUBLIC INVOLVEMENT IN, AND FUNDING OF, GRADE-CROSSING MATTERS HAS BEEN ONE OF A NUMBER OF FACTORS CONTRIBUTING TO THE DECLINE IN GRADE-CROSSING ACCIDENTS, IT IS INAPPROPRIATE TO TREAT THAT PUBLIC PROGRAM AS THE SOLE IDENTIFIER AND PRIMARY FINANCIER OF SAFETY NEEDS AT SUCH CROSSINGS.

There is no disputing that federal involvement in grade-crossing safety has had some positive results. After all, largely aided by federal and state funding, the number of grade crossings with automated gates and lights has increased from 7,310 in 1970 to 31,696 in 1997 (see Federal Railroad Administration's 1970 *Report to Congress: Railway-Highway Safety* and its 1997 *Railroad Safety Statistics*); it has been well established that such active devices are the safest type of grade-crossing facilities. However, there are other major reasons why the grade-crossing accident rate has declined.

First, the accident rate prior to 1980 had been abnormally high because a number of railroads were in, or close to, bankruptcy. Maintenance had been deferred and railroad operating conditions were often deplorable. In essence, while commendable, a reduction from an extraordinary level of accidents should not in itself be used as an indication of future success. The current grade-crossing death rate of about 450 people annually has been declared unacceptable for an industry thought to be operating only about 4,000-5,000 trains daily. Such an accident rate would certainly be condemned in the commercial airline industry. Second, total track mileage

owned by railroads in this country has shrunk dramatically, declining from 176,745 miles in 1970 to 99,516 miles in 1997.

While there have been some mileage increases for small (non-Class 1) railroads, these carriers operate relatively slow trains, and have virtually no high-speed, Amtrak and commuter trains running over their light-density lines. Third, the total number of public grade crossings in this country has declined from 231,750 in 1970 (see 1970 *report* reference above) to 160,395 in 1997 (*Railroad Safety Statistics* cited above). Obviously, the reduction of 77,229 miles of track and the elimination of 71,355 grade crossings from 1970 and 1997 had a lot to do with the reduction in grade-crossing incidents during those years. Fourth, there is the matter of improved engineering – including braking systems – of motor vehicles, having a positive impact on motorist reaction to trains passing through crossings. Finally, the decision of the Supreme Court in the *Easterwood Case* has put railroads – particularly the NS – on notice that they have a duty to identify the hazards at their public crossings and to respond with safety initiates.

The reduction of railroad mileage and the closure of grade crossings cannot be expected to continue. As the population and commerce continue to grow and expand, a core railroad system is emerging and the more susceptible grade-crossing closings have already occurred. Consequently, in the future, lowering the grade-crossing accident rate in a timely and efficient manner will require more than the application of a federal program, limited as follows:

1. The criteria for budgeting federal monies for grade-crossing safety is somewhat political and thus, not based solely on safety needs. In fact, these funds have declined in recent years. For example, according to data supplied by the FHA, federal funding of about $196 million in each of years 1977 and 1978 dropped to $155 million in 1999. Given a national inflation rate of about 149% between 1977 and 1999, the *real* (inflation-adjusted) decline in federal funding has been dramatic.

2. The allocation of federal monies to the various states is also partially based on non-safety factors, including both urban and rural population levels.

3. There is no uniformity among the states as to how their federal monies will be used to upgrade safety devices at their grade crossings, and

4. In many instances, states used their federal funds for grade-crossing safety on projects not involving grade crossings.

As an illustration of the limited federal funding for grade-crossing safety, consider the case of a state such as Tennessee. In 1997, Tennessee received a total of $3.3 million in federal funds for grade-crossing safety; $1.63 million was designated to be used for protective devices and the other $1.63 for the elimination of hazards (data provide [sic] by FHA). In that year, Tennessee was recorded as having 3,246 grade crossings, of which 2,910 were passive. (1997 *Railroad Safety Statistics*).

Assuming that all $3.3 million were to be used by Tennessee to install gates and lights at its passive crossings, and that the $3.3 million represented a 90% federal share, a total of $3.7 million would be available for signalization in a given year. At an average cost of $150,000 each (based on railroad estimates), only 25 crossings could be signalized annually. This means that it would take Tennessee 116 years (2,910 passive crossings divided by 25 installations per year) to signalize all of its crossings. Of course, lower costs would result in more potential installations. This illustration, while subject to refinement, demonstrates the need for significantly more railroad involvement in determining grade-crossing safety needs, and the funding of gate installations.

6. IN FACT, IF NS HAD ACCEPTED ITS PUBLIC RESPONSIBILITY TO PROVIDE FOR ADEQUATE SAFETY AT GRADE CROSSINGS, THE ACCIDENT RATE WOULD HAVE BEEN LOWER

There is little doubt that grade-crossing safety would have improved even further if NS had accepted its responsibility for such safety, including the voluntary installation of automated gates at its passive crossings. NS's mentality of denial and cost minimization, could be expected to lead to a company culture where safety consciousness at grade crossings could be compromised. This does not mean that NS employees were not at all concerned with safety, for there are many other aspects of railroad safety, and even in the case of grade crossings, there are some aspects of safety which NS seems to address. Rather, it means that the responsibility for grade-crossing safety has been presented to employees in

such a narrow context that they are apt to give it less thought, attention, and time, than it so properly deserves.

The failure to adequately plan, lead, fund, maintain, repair, replace, observe, recognize, and/or communicate, could occur at any time and anywhere at NS's thousands of grade crossings, but the impact of such actions were more likely to be adverse at non-gated crossings. This is because non-gate crossings are less safe than passive crossings, and similarly, because automatic gates can mask what otherwise would be contributing factors to an accident.

According to the Railroad Safety Statistics (1997) cited above, 80% of the grade-crossings accidents occur where there are no gates. At the same time, the same federal agency – the Federal Railroad Administration – has concluded (in its *Railroad-Highway Grade Crossing Handbook*) that grade-crossing accident rates by traffic volume, are 10 times higher for stop signs and 5 times higher for cross bucks, than they are for gates, as shown below:

Device	Accidents Per 100 AADT	% of Devices
- Stop signs	5.01	7%
- Cross bucks	2.46	48
- Bells, etc.	1.09	1
- Other	0.85	-
- Flashing lights	0.75	18
- **Gates**	0.53	20
- Unknown	0.34	3
- Special warning	0.33	3
Totals	1.00	100%

Thus, it was no surprise when the Federal Railroad Administration declared (in its *Handbook*) that: *Active traffic control devices have proven to be an effective method of improving safety and operations at railroad-highway grade crossings*. The agencies own figures revealed that upgrading from passive to automatic gates could be expected to result in an 85% reduction in accidents.

Automated gates are the safest device at grade crossings for two reasons. First, they tend to mask human error and otherwise dangerous conditions. For example, even though a motorist's sight line may be obstructed, automated gates would most likely stop that motorist from advancing through the crossing. The same can be said when there is inclement weather, failure of the train engineer to blow the warning devices on time, and overly-grown vegetation along either the railroad track or highway. Second, passive crossings require unrealistic *fail-safe* motorist behavior – something that is not assumed with automated gates. In a study undertaken in Tennessee by Dr. John E. Tidwell, Jr., Professor at the University of Tennessee, and published in that university's 1990 *Proceedings on Railroad-Highway Grade Crossing Research and Safety*, it was found that:

> *54 percent of the drivers contacted believe that if a crossing does not have a signal, it is rarely used by trains. This may affect the driving behavior of those drivers as they approach passive crossings. Drivers who believe that signals are placed at all crossings that are regularly used by trains would logically be expected to drive as if they had the right-of-way unless they see a flashing signal or a lowered gate.*

Obviously, the installation of automated gates at NS passive crossings could have been expected to eliminate a majority of the deaths and injuries at those crossings. Other savings from gated crossings would include the costs to the railroad, expenses incurred by local communities, the cost of damaged cargo, and possibly the catastrophic consequences of a major hazardous materials event.

7. THUS, THE PROPER BALANCE BETWEEN PUBLIC AND PRIVATE RESPONSIBILITY FOR GRADE-CROSSING SAFETY – ESPECIALLY WHEN IT INVOLVES A PRIVATELY-OWNED-AND-OPERATED INDUSTRY VESTED WITH A A [sic] PUBLIC RESPONSIBILITY – SHOULD NOT BE UNDERMINED BY OVER-STATING THE SCOPE OF LIMITED FEDERAL FUNDING.

NS's posture in regard to grade-crossing safety is consistent with its emphasis on cost cutting during the past two decades. The railroad seems to view grade crossings as an evil to be eliminated, and which otherwise should not require much in the way of railroad resources. After all, the NS's positions are that: (1) it is the government who should determine grade-crossing safety needs, (2) it is the government who should fund grade-crossing improvements, and (3) it is the motorist who is responsible for grade-crossing accidents.

The safety interest expressed by Congress would best be served by leaving in place a joint responsibility between the public highway authorities and the railroad

industry. This allows the tort system to provide the economic incentive for railroads fulfilling their safety obligations. Railroads would be expected to go beyond its more narrow and clearly-stated duties to follow Federal Railroad Administrator safety standards (which it is required by law to do), cut its vegetation, and provide relatively modest funds to help educate motorists. While well intended and certainly beneficial over past decades, federal aide to railroad grade-crossings has given a shield to the NS, and other railroads, to hide behind in denying its full safety responsibility at grade crossings. While the NS will install automated gates when it perceives an economic advantage from such action, clearly, NS's economic gains and safety at grade crossings are often mutually exclusive events.

Federal involvement in railroad grade-crossing safety is not an either or situation. It is the railroad that owns and operates the track structure as a commercial right-of-way, dissecting public roadways and inhibiting the efficient and safe movements of this country's populace. It is the railroad which passes each and every grade crossing daily. It is the railroad which can use pre-tax dollars to invest in grade-crossing safety and pass on some of its expenses to customers. It is the railroad which has a duty to the public which granted it eminent domain and a license to operate, to provide safe crossing of its track structure. And it is the railroad which shares crossing sites with public authorities.

NS's policy of denying responsibility for adequate grade-crossing safety and inappropriately relying on a limited public funding program not only leads to inadequate capital investment, maintenance, and personnel

levels related to grade crossings, it also breeds an overall staff attitude of ambivalence and negligence. The end result is a conscious disregard for the substantial risk to the taxpayers of death, injury, and property damage resulting from collisions and ensuing train derailments at our nation's gate [sic] crossings.

APPENDIX 12

TW Commentary

The Other Side of Staggers

BY HARVEY A. LEVINE

Conventional wisdom has it that the Staggers Rail Act of 1980 is hallowed legislation not to be tinkered with by Congress. After all, since Staggers, the railroad industry has eliminated its capital shortfall by increasing productivity, traffic and earnings. While the linkage between Staggers and the railroad turnaround is somewhat fuzzy, there is little doubt that the industry's newfound economic freedom has generated some benefits.

The other, and disturbing, side of Staggers is that it seems to have contributed to the antithesis of open-market behavior on which the legislation was based. For example, although one of the policies of Staggers is to avoid undue concentrations of market power, there has been a blatant movement toward such concentration. In 1980, the four largest Class 1 railroads accounted for 43 percent of total Class 1 traffic. following a series of mergers and acquisitions, in 1998 four mega-railroads accounted for 95 percent of the industry's traffic, with two each dominating half the country. This concentration is reminiscent of monopolistic power with the potential for market abuse.

A second example is that while Staggers required fair and expeditious regulatory decisions, the fair standard is questionable and there has been nothing expeditious about regulatory decisions. A case in point is the annual regulatory determination of railroad revenue inadequacy even while external capital literally chases railroad investment opportunities and railroad presidents boast to

their shareholders that earnings are more than adequate. This regulatory enigma should not be too surprising in that the Interstate Commerce Commission adopted a railroad inflation inde[illegible] the basis for general rate increases in 1980, only to flip-flop to an inflation-adjusted, or cost index, nine years later. During that period, railroad inflation increased by 50 percent while railroad costs declined by 11 percent.

Furthermore, the railroad cost methodology, market-dominance determination and maximum-rate standard have been engulfed in elongated proceedings. And finally, although Staggers was to provide a regulatory process which balances the needs of carriers, shippers and the public, railroads seemed to have gained the adversarial advantage in regulatory proceedings. The variations of railroad rate changes since Staggers has splintered shipper opinion. At the same tie, because of fewer and similar operations, railroads have strengthened their common resolve and have gained the financial resources to employ a delay-and-wear-them-down strategy. The result has been length and costly regulatory proceedings favoring the staying power of railroads.

To fully appreciate the current railroad policy environment, it must be understood that Staggers was more than a collection of technical provisions. Its findings, goals and policies combined to establish a mantra: hands off; let the market decide; and, when government is involved, err on the side of permissiveness. This message extended to the broad area of national transportation policy.

But has the free-market philosophy worked when railroads take positions which appear to be contrary to an industry with a public interest and responsibility? For example, under the pretense of being concerned about highway safety (not generally a railroad issue), railroads have been committed to stopping potential increases in truck capacity, admittedly in an effort to limit traffic diversion. And yet, railroads have denied responsibility for determining the need for, and the funding of, upgraded safety devices at their grade crossings. Instead, they choose to rely on a limited public program for such determinations and expenditures.

Railroads have declared that they want to be treated like all competitive industries in this country – except where they want to retain special public treatment such as antitrust immunity, work-stoppage protection and favoritism from bankruptcy provisions. [Picture Omitted In Printing] And finally, railroads have guarded their track structures as entitles for exclusive use and not subject to a private taking. But such a position doesn't come to grips with the public nature of their operations.

The combination of railroad market power, diminished regulatory effectiveness and adversarial advantage, can breed an industry arrogance not unlike William Vanderbilt's: "The public be damned." Consider the recent Association of American Railroads response to a judicial decision in which one of its members was ordered to pay a sizable sum of money to an injured plaintiff in a grade-crossing case: we didn't put the highway in, and frankly, we would prefer that it not be there.

Such an attitude, along with the other railroad positions identified above, raises the question as to whether the four mega-railroads are becoming like public utilities and the major telecommunications company in the 1950s. For if they are, their self-inflicted wounds could logically invite regulatory reform and/or public policies to increase market competition.

– Levine is a transportation economist and an independent consultant.

APPENDIX 13

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March 26, 1990

[Names And Additional Addresses Omitted In Printing]

TO ALL NARTC MEMBERS:

In December, 1989, the NARTC Executive Committee formed a "Special Advisory Committee On Grade Crossing Litigation" (consisting of the undersigned and John Bishoff of Chicago, Bill Brasher of St. Louis, Art Carmody of Shreveport, Charlie Clarke of Cleveland, Roy Farwell of Kansas City, Paul Hoferer of Topeka, George Pappas of Baltimore, and Bob Wolfe of Los Angeles) to demonstrate that claims based on the theory of a railroad's failure to provide additional grade crossing warning devices are preempted under federal law. These claims currently involve an annual industry-wide total payout of some $100,000,000.

Enclosed you will find the Committee's product, consisting of a summary report, a "punch list" of necessary items, a Model Trial Brief with form Affidavit, jury instructions, a background discussion of federal preemption, a number of unpublished decisions on the subject, and a listing of the various source materials, and where they can be obtained.

This effort was made possible not only by the hard work of the Committee, but also by the wonderful cooperation, work and contributions of many NARTC members, as well as the financial backing of the BN, C&NW, Conrail, CSX, KCS, IC, Norfolk-Southern, Santa Fe, SP and UP.

It is being supplied as a membership benefit for NARTC members *under NARTC copyright*, with the express understanding that *its use is limited to the defense of railroads in litigation,* and *for no other purpose.*

A word of *CAUTION* - - Be sure to read *all of the enclosed materials at or prior to the time you receive a crossing case,* as the first requirement of advancing the theory must be done when the complaint is answered.

We hope that the Committee's work will be of help to you in advancing the grade crossing warning preemption theory.

/s/ Stephen A. Trimble
Committee Chairman

DEPOSITION EXHIBIT #9 Shoemaker

NATIONAL ASSOCIATION OF RAILROAD TRIAL COUNSEL

Report Of The Special Advisory Committee
On Grade Crossing Litigation

FEDERAL PREEMPTION OF RAILROAD LIABILITY UNDER STATE LAW BASED ON SELECTION OF GRADE CROSSING WARNING DEVICES

March, 1990:

Following the ill-advised decision in *Karl v. Burlington Northern,* 880 F.2d 68 (8th Cir. 1989), which ignored many of the important facets of the preemptive effect of the Rail Safety Act of 1970 and the Highway Safety Act of 1973 (which placed on the states the requirement and duty to survey, plan and implement improvements to grade crossing warning devices), the NARTC Executive Committee, in December of 1989, authorized the establishment of the Special Advisory Committee On Grade Crossing Litigation. It charged the Committee to develop a position which could be used in trial and appellate courts, demonstrating that these Acts, and the Regulations issued thereunder, effected a complete preemption of state law which theretofore had imposed a duty (and thus liability for injury or death for negligence in connection therewith) on the railroads (whether on the basis of state statutes or common law), on the theory that such duty had been made the responsibility of those states receiving federal highway funds (*i.e.*, all of the states).

The Committee met, and decided that the best approach was to formulate a "Model Trial Brief," so as to provide the essential elements necessary for both the trial court and on appeal. At the same time, it was deemed sensible to also have a more detailed discussion of the various considerations involved. This led to the formulation of a separate "Background of Preemption," which would serve not only for educational/ appeal purposes, but also contain information for reply or rebuttal briefs in the trial courts.

The Committee realized that the "Model Brief" brief will be used in both federal and state courts (with judges having different levels of familiarity with the Acts, the doctrine of preemption, or the history of rail-highway grade crossings). Accordingly, the Committee decided (despite court rules or local practice invoke page limitations, *etc.*) to give fairly detailed treatment in the "Model Brief" because its purpose is to overturn the long-standing law in many states which allocated the duty and responsibility for grade crossing safety to the railroads. At the same time, *it realized that the trial lawyer is free to delete many of the details from the "Model Brief," or, if he so chooses, substitute pertinent portions from the "Background" in order to make the best case for the particular judge involved.* Thus, both documents should be carefully reviewed by the trial lawyer in order to know what is available to convince the courts of federal preemption under the applicable federal statutes and regulations, as well as the conforming statutes passed in many of the states.

The Committee has left to the trial lawyer the ultimate decision whether he should advance the preemption theory in a motion for summary judgment, a motion *in*

limine, or to use the same in objecting to the introduction of plaintiff's evidence of negligence at trial.

The Committee, while it worked hard and rapidly as possible to formulate the "Model Brief" and "Background," and to assemble the materials, makes no claim of originality, save in limited areas. Most of the materials were contributed by more than 60 NARTC members, who graciously responded to our call for H-E-L-P! They collected state statutes, briefs which they had filed, court opinions (both published and unpublished), and affidavits and depositions of state highway officials, which they sent to us, together with many helpful ideas and suggestions. The Committee acknowledges their significant contributions, which demonstrates the professional enthusiasm of NARTC's membership, as well as the valuable service which they render to the Nation's railroads.

Appended you will find photocopies of those documents and unpublished decisions which the Committee decided (at least for the present) would most often be attached as exhibits to the "Model Brief." You will also find the bibliography of materials (including virtually all state laws and regulations) which were reviewed in *connection with* this project. Those materials will be maintained at the NARTC office in California, and will be made available on request, save for the voluminous federal materials, which should be ordered from government sources.

ONE WORD OF CAUTION – – Please read the entire package *at the time when the case is brand new*. Not only will it suggest to you certain investigation and discovery, but it will ensure that you will present the *best* case on

preemption, not a half-hearted one wherein critical facts or legal theory are omitted. AND MOST IMPORTANTLY – – study the "Punch List" carefully, as it discusses a number of considerations which may well spell the difference between success and failure.

The Members of the Grade Crossing Committee are honored to have been selected for this task, and we hope that our efforts, and those of the many NARTC members who made contributions, will prove successful. Finally, we hope that if anyone has any questions on the subject, they will fell free to contact one of the Committee Members.

IN THE FUTURE – – Please forward copies of all trial and appellate court decisions *immediately* to the NARTC offices, so they may be circulated and added to the materials available for use by others.

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APPENDIX 14

ALSTON & BIRD
A Partnership including Professional Corporations

[Addresses Omitted In Printing]

April 17, 1990

VIA FAX

Stephen A. Trimble, Esq.
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Re: Federal Preemption/Mahony v. CSXT

Dear Steve:

As we discussed, enclosed is our copy of Judge Murphy's Order on Reconsideration in the *Mahony* case. While he did not go as far as we would have like on the signal issue, at least he found a federal decision and thus preemption. On the speed issue, he reiterates his ruling that the question of reasonable speed is federally preempted. What he next does, however, is something that I frankly am perplexed about. He finds a factual issue sufficient to defeat summary judgment as to what was the maximum allowable federal speed, based solely on the testimony of the plaintiff's hired expert that his understanding "from his research in the area" is that the speed listed on the national DOT inventory sheet for this crossing is the maximum allowable speed. For reasons that we have simply been unable to run down in talking with state and federal DOT officials and railroad officials, for this particular crossing the speed was listed at 20 miles per hour. The judge, therefore, finds a factual dispute whether the maximum allowable federal speed is 20 miles

per hour or 40 or 60 based on federal regulations for class three and class four tracks respectively. Having found what he did on federal preemption, to-wit: that the speed is set by federal regulation, I don't see how he can find a factual issue on a matter of law based on a hired expert's understanding of his research. In any event, I am not concerned about ultimately showing that the maximum speed is set by federal regulation, and I am glad that he preserved his ruling on the federal preemption question.

Thanks for mentioning the session in Chicago, and I appreciate being included. I am, as you know, quite intrigued by the possibilities that preemption offers us and am very much of the view that it should be used aggressively with respect to issues, but extremely judicially with respect to cases. Just as in the *Mahony* and *Easterwood* cases, we knew we had good facts and good judges who are receptive to preemption arguments. Bad opinions can result from poor choices of cases in which to make the argument. Like Kenny Rogers' song says, "You gotta know when to hold 'em and know when to fold 'em."

As soon as we get the order in the *Easterwood* case, I will send that along to you.

Very truly yours,

/s/ Jack H. Senterfitt
Jack H. Senterfitt

JHS/br
Encl.
cc: Henry M. Moffatt, Esq. w/encl.

APPENDIX 15

IN THE DISTRICT COURT OF
LABETTE COUNTY, KANSAS

MIIKA M. MONOHON, and AMANDA L. MONOHON, A Minor, by and through their Mother and Natural Guardian, Janet I. Jackson, and JANET I. JACKSON, individually, and as Representative of the Estate of Dennis R. Monohon, Deceased,	)	No. 98 C 27 OS
Plaintiffs,	)	
vs.	)	
UNION PACIFIC RAILROAD CO.,	)	
Defendant.	)	

IN THE DISTRICT COURT OF
LABETTE COUNTY, KANSAS

JOMAIN E. ROUSER,	)	
Plaintiff,	)	
vs.	)	No. 97 C 32 OS
UNION PACIFIC RAILROAD CO., CHIRUND LAVA, M.D.,	)	
Defendants.	)	

AFFIDAVIT OF MERRICK C. WALTON

THE STATE OF TEXAS)
) ss:
COUNTY OF HARRIS)

Merrick C. Walton, being duly sworn, on oath states:

1. My name is Merrick C. Walton. I am of lawful age and otherwise competent to make this affidavit. I am an attorney employed by Union Pacific Railroad Company, holding the position of General Solicitor. My office is located in Houston, Harris County, Texas. I have been licensed to practice law in Texas since 1975, and I am also admitted to practice in certain federal jurisdictions.

2. I have been engaged in the representation of railroads in connection with the defense of personal injury litigation at various times and in various capacities since 1976. In 1989, I was appointed as a General Solicitor of Union Pacific Railroad Company. In that capacity, my responsibilities include directing the representation of other Union Pacific Railroad Company in-house and outside retained counsel in personal injury litigation including railroad grade crossing litigation.

3. I am currently a member of the National Association of Railroad Trial Counsel (NARTC) and have been a member for five years. I am Union Pacific Railroad Company's attorney member of the Special Advisory Committee on Grade Crossing Litigation (the "Committee"). As a member of the NARTC and the Committee, I have personal knowledge concerning the functions and activities of the NARTC.

4. The NARTC is a private non-profit organization limited to attorneys who are engaged in the defense of litigation affecting railroads. The NARTC headquarters is in Pacific Palisades, California, and its Executive Director

is Henry M. Moffat, a member of the State Bar of California since 1951. The organization periodically holds meetings throughout the country, wherein issues affecting railroads are presented to the attendees. The purpose of the meetings is to provide a forum for railroad trial counsel to privately, confidentially, and jointly discuss between themselves, and their railroad

* * *

APPENDIX 16

OLI LOGO AND NAME

[LOGO]
OPERATION LIFESAVER

Operation Lifesaver Presenter's Guide

Teen Curriculum

Section 3

What To Do

[Drawing of Car darting in Front of train]

What To Say

Teens

Many people think that most vehicle-train collisions happen at night. As a matter of fact, almost two thirds of all collisions at crossings occur in the daylight hours.

In one quarter of all highway-rail grade grossing collisions, the car runs into the side of the train!

Most Crossing collisions involve trains traveling under 35 miles per hour. Slowing down the trains would not eliminate collisions.

Over half of all such collisions occur at crossings equipped with automatic warning devices. Flashing red lights and gates don't eliminate collisions, either.

- Most fatalities occur within 25 miles of the driver's home. People seem to be lulled into carelessness by the many times they have crossed without seeing a train. We want you to remember the safety precautions to take at such crossings. A train may come by at the time from either direction. Trains today don't

move on regular schedules. Our slogan in Operation Lifesaver is "any time is train time."

Highway-rail grade crossing collisions happen to people of all ages. Teenagers and the elderly are involved, but so are all in between. The average age works out to be about 30 years of age, very near the national average, so we are all at risk.

Operation Lifesaver Presenter Trainer's Manual

Handout Level 1

Section 2 Pre-course Preparation

OPERATION LIFESAVER®, INC.
PRESENTER POLICIES and PROCEDURES

1) Any person who represents the state Operation Lifesaver program by making any any [sic] type of highway-rail grade crossing education presentation or who makes any type of Operation Lifesaver educational presentation must have attended and satisfactorily completed an approved Operation Lifesaver, Inc. certification program.

2) All Operation Lifesaver presentations in the state must be coordinated through the appropriate OL coordinator within the presenter's portion of the state. It is acceptable for OLI certified presenters to schedule OL presentations as long as the appropriate OL coordinator is aware of the presenter's activities and is in agreement with what is being scheduled. That way there should be no conflicts with other presentations being scheduled by the coordinator and/or other presenters in the area.

3) Each OLI certified presenter must keep in mind at all times, when making Operation Lifesaver presentations or other state activities, that they represent both Operation Lifesaver and their employer. Each presenter must understand that he/she is not a spokesperson for Operation Lifesaver, Inc. or the state Operation Lifesaver program, unless so designated by the state OL coordinator. The presenter's only responsibility is to deliver an Operation Lifesaver presentation as taught in the OLI presenter certification program. The presenter is not authorized to express his/her opinions or to discuss topics other than those specifically included in the Operation Lifesaver, Inc. Presenter's Guide.

4) Each presenter should be aware, at least two (2) weeks in advance, of any Operation Lifesaver presentation scheduled for him/her. It is the presenter's responsibility to prepare in advance, make arrangements to receive all necessary materials from the OL coordinator, and to deliver the presentation at the agreed-upon time and place. In the event of an emergency, it is the presenter's obligation to contact the OL coordinator as soon as possible so a replacement can be found. Depending on circumstances, a presenter who fails to show up for a scheduled presentation will be placed on probation by the sate OL coordinator. Repeated failure to deliver scheduled presentations could result in permanent suspension. Such steps are taken to insure the credibility of the state OL program and the national Operation Lifesaver Inc. Program.

Operation Lifesaver Presenter Trainer's Manual

Handout Level 1

Section 3 Introduction to Course

OPERATION LIFESAVER®, INC.

Operation Lifesaver®, Inc. is the designation used to identify the components making up the National Operation Lifesaver organization. Formed and incorporated as a 501 (c) 3 organization under IRS code in 1986, OLI is the national program established as a grass-roots program in 1972, and has *three* specific elements:

A) *BOARD OF DIRECTORS* – OLI is governed by an 11-member Board of Directors which is financially, legally and ethically responsible for all activities of the corporation. Board members represent coalition partners, such as highway, freight rails, short lines and suppliers, as well as the Chairman, Chairman-Elect and Immediate Past Chairman of the Program Development Council, OLI's program advisory group. The remaining board positions are at-large. Officers of the Board are: President, Vice President and Secretary/Treasurer. Current Board members are listed in the Operation Lifesaver Directory.

B) *PROGRAM DEVELOPMENT COUNCIL – PDC* – A special program advisory group was formed in 1987 to provide the volunteer manpower to suggest, guide and monitor all OLI programs. This council consists of 33 members who represent the varied areas of interest and input served by the Operation Lifesaver movement. Members include representatives from federal/state/local governments, highway-rail grade crossing supply companies, private safety associations (such as AAA and Amoco Motor Club), Class I freight railroads, Amtrak, Short Line and Regional railroads, law enforcement agencies (both public and

railroad) and State Operation Lifesaver Coordinators. PDC members are appointed by the President of the Board of Directors in cooperation with the Chairman of the PDC.

The PDC meets three (3) times a year, and works through a standing committee structure. Current standing committees, and some of the recent programs implemented through their leadership, are listed below:

1) *EDUCATIONAL RESOURCES COMMITTEE* – provides input and suggestions as to what materials are needed in the field. Reviews and assists with design of print and audio/visual materials.

2) *ENFORCEMENT COMMITTEE* – provides assistance and liaison for all activities such as *Officer on the Train* and *Grade Crossing Collision Investigation Courses.*

3) *ENGINEERING COMMITTEE* – provides liaison with all segments of the engineering community, serve as technical review board for OLI materials, and investigate and implement all programs deemed needed by state programs in the area of engineering.

POSITION STATEMENT

To enhance highway-rail grade crossing safety, Operation Lifesaver, Inc. endorses the concept of reducing the number of crossings through consolidation, elimination, grade separation and restricting the number of new crossings.

4) *PUBLIC RELATIONS COMMITTEE* – creates all public relations and media programs and helps in implementation.

5) *STATE ASSISTANCE COMMITTEE* – suggests programs which will assist states with local programs.

Surveys state OL Coordinators at least three times a year for input into programs, projects, concerns and suggestions to make the program stronger.

SAMPLE RESPONSES TO QUESTIONS

WHY AREN'T THERE GATES AND LIGHTS AT EVERY CROSSING?

Most people think that gates and lights are the answer to preventing tragedies at grade crossings. Unfortunately, these active warning devices often are not enough because drivers sometimes choose to disregard them; in fact, over half of all grade crossing crashes at public crossings occur where active warning devices (gates, lights, bells) exist.

Some crossings, where vehicular traffic is light, may only have one or two trains per week. At these crossings, it may not be cost-effective to install gates or lights. Decisions regarding appropriate types of warning devices needed at grade crossings are generally made by the state's highway officials.

THE GATES AT THAT PARTICULAR CROSSING ARE ALWAYS DOWN WHEN TRAINS ARE NOWHERE IN SIGHT. PEOPLE START TO BELIEVE THAT EVERY TIME THEY ARE DOWN, IT'S A MALFUNCTION.

I am not familiar with that specific crossing therefore I cannot speak directly to your question. You may want to contact the railroad. I can get you a number if you like.

Generally, if a motorist approaches a highway-rail grade crossing with an activated gate, he or she should heed the

warning. If the motorist believes the gate might be activated without a train present, the motorist should call his/her local law enforcement agency to report the incident. Under no circumstances should a motorist drive around a lowered gate unless a law enforcement or railroad official flags him/her through the crossing.

HINTS

- Avoid SPECIFIC-type questions and attempt to answer in GENERAL terms.

  EX: Operation lifesaver does not actively participate in the closure of specific crossings; however, Operation Lifesaver does *"endorse the CONCEPT of reducing the number of crossings through consolidation, elimination, grade separation and restricting the number of new crossings."*

  EX: Operation Lifesaver does not comment on the cause of any grade crossing crash; however, Operation Lifesaver does know that over 50 percent of the crashes that occur each year at public grade crossings, occur where active warning devices exits.

- DO NOT feel you need to answer every question asked of you. It is perfectly all right to say, "I do not know," and "I am really not in a position to discuss/comment on that specific issue. You should speak to _____." Attempt to have resource numbers handy.

- Above all else, use good judgment and discretion when responding. If a question makes you uncomfortable, then do not attempt to answer it. Remember you may always use the OLI toll-free number for referrals.

IMPORTANT WORDS AND PHRASES *TO USE* AND *NOT TO USE* WHEN REFERRING TO HIGHWAY-RAIL GRADE CROSSING SAFETY

When a roadway intersects a railway, it is a *highway-rail grade crossing*.

The term "railroad crossing" refers to an intersection where railroad tracks cross. "Highway" prefaces the phrase to emphasize the importance of the highway user in the grade crossing safety equation.

Crossings are *equipped* with either *active* or *passive warning devices*.

*A crossing is **NEVER protected/unprotected** or **guarded/unguarded**. This implies that crossings with gates, lights and bells somehow protect the motorist when in fact they are merely warning devices that are too often disregarded.*

When a vehicle and train collided, it is a *collision* or *crash* not an *accident*.

Avoiding the word "accident" is now standard in the highway safety industry, as the term implies that impact was unavoidable when in fact, the motorist could have prevented the collision by yielding the right of way to the train or paying closer attention.

* * *

APPENDIX 17

REGULATORY ISSUES – CROSSING SAFETY IN OREGON*

*Refereed Paper

Gregory A. Malkasian
Administrator, Transportation Safety Division
Oregon Public Utility Commission

PERCEPTION OF LIABILITY

The Oregon Public Utility Commission's (OPUC) perception of liability is based on experience and guidance. Experience from being co-defendants in cases and on guidance from legal counsel.

Oregon has been pro-active in crossing safety since 1968. Our activities in these matters have led to significant reductions in train-vehicle accidents at public crossings. In 1968, Oregon experienced 313 train-vehicle accidents which resulted in 26 fatalities and 67 injuries. In 1979, Oregon experienced 146 train-vehicle accidents which resulted in four fatalities and 28 injuries. Ten years later (1988), accidents dropped to 35, resulting in three fatalities and nine injuries.

Our legal counsel has assisted us in avoiding litigation and defended us in several legal matters. With open record laws, it is imperative that we adhere to a well established set of policies and procedures.

The OPUC has been named a co-defendant in several cases. Timeliness of implementing ordered crossing improvements often seem to be an issue. The obvious argument is that if the PUC had ordered crossing protection earlier, or required specific safety activities at the site, the accident would have been avoided. To reduce the

effect of this type of allegation, it is necessary to ensure cases are handled in a timely manner. This also requires timely follow-up to ensure compliance with the provisions of Commission orders. Our legal counsel has advised that we should have continuous documentation on all cases, including actions taken by staff in the attempt to resolve any contested issues.

During the course of processing an application for improvements at existing crossings, it a imperative that steady progress be made. If the matter stalls, for whatever reason, we must take appropriate action to resolve the matter. Sometimes this means that the matter is scheduled for a formal PUC hearing sooner than the parties would like.

Two liability cases may be of interest to you. One alleged that PUC failed to require installation of vehicle STOP signs at a crossing where STOP signs were not installed and an accident occurred. Staff had conducted a computer search of crossings meeting criteria showing possible benefit from installation of vehicle STOP signs. A letter recommending the installation as circulated to the appropriate public authorities. Actual installation was left to their discretion. Normally, the OPUC issues an order to perform specific functions rather than a permissive-type authority. Because this affected many crossings and road authorities, the permission was by letter. This case involved a public authority which decided NOT to install the recommended vehicle STOP signs. Since we did not require the public authority to install the STOP signs, staff did not check to determine whether the STOP signs were installed. We did inventory the protective devices at those crossings during our routine biannual

inspections. A fatal train-vehicle accident occurred at a county road grade crossing and OPUC was subsequently sued for not following up and requiring the installation of the STOP signs. We pleaded discretionary immunity and were ultimately dismissed from the lawsuit after depositions and other legal papers were filed. A major reason for our being dropped as a co-defendant was because staff has documented policies and procedures regarding railroad-highway crossings.

Another case involved an accident at a crossing where the processing of an application for crossing improvement was rather involved and protracted (NW 9th & Division Place). There was a long period while the parties were in contact, but nothing formal was filed in the docket. After the accident, plaintiff's attorney tried unsuccessfully to create an issue regarding our "lack of action." While the written record did not reflect it, staff had been in contact with the parties throughout the period. As it turned out, OPUC was dismissed from the case because the plaintiff did not file the suit within the statutory time limit.

Our experience with agency liability issues leads us to consider three areas.

1. **Follow established policies and procedures;**

2. **Insure that steady progress is made to resolve issues in a timely manner; and**

3. **Document and justify the agency's action throughout the process of resolving application cases.**

By following these steps, liability concerns have been mitigated by the OPUC.

OREGON'S PERCEPTION OF MAJOR REGULATORY ISSUES AFFECTING RAILROAD-HIGHWAY CROSSING SAFETY

ACCIDENT REPORTING

One issue of concern to us in the performance of our railroad-highway crossing activity is the state's inability to influence *accident reporting*. Prior to federal government intervention in the accident reporting area, railroads operating in our state cooperated with us by providing accident reports in a timely manner. They contained data elements very useful to us in analyzing accident causes. We conducted whatever type of review/investigation which was warranted. Our objective in accident analysis has always been to identify crossing safety actions that can reduce the likelihood of future accidents.

Since the federal government preempted state jurisdiction in the area of accident reporting, we no longer receive thorough accident reports in a useful format. This has hampered our efforts to analyze and review accidents as warranted. Receiving a sterile generic accident report, as much as 60 days after the accident, has limited value. The Federal Railroad Administration investigates few accidents. They simply collect and record data for statistical purposes. The federal preemption of state accident reporting does not give due consideration to valid state needs. We certainly do not object to uniform reporting requirements and the elimination of multiple reports, but

we strongly believe that the requirements should recognize and respond to the states' needs for accurate, timely information in a useful format.

FUNDING CONCERNS

The escalating cost of railroad charges to install crossing devices has been a concern to us for some time. Oregon law gives railroads the right to install equipment at crossings on their lines if they so choose. Many shortline railroads do not have signal departments. When they have a crossing signal project to install, they contract out the work. We have found that costs for similar projects installed by a contractor rather than railroad forces may differ by more than 150 percent. An installation that costs $35-50,000 if done by a contractor may cost $90-120,000 if installed by a Class I railroad.

When our concerns are voiced to the railroads on this matter, they cite labor union contracts as the culprit. While we believe labor costs do contribute to excessive costs, there are other factors to consider as well. Railroad overhead and equipment costs vary significantly from those in contracted jobs.

An additional concern is the time it takes a railroad to complete the installation. Currently, we are experiencing a 15-24 month period between the time a PUC order is signed and the job is completed. Signal suppliers tell us they can provide most equipment within 2-4 weeks of an equipment order. We believe a major contributing factor in installation delays is the railroads' reduction in their work forces. With fewer workers, the railroad must move

their gangs from longer distances between work locations, sometimes causing great delays. Fewer employees mean that more jobs are queued for longer periods before labor, equipment, and material can be assembled for a job.

We are also concerned about the transfer of Federal Section 130 crossing safety funds to high hazard elimination highway projects not related to crossings. When Section 130 funds became available, the federal government routed them through the various state departments of transportation. In the case of Oregon, this interjected another state governmental body into the process. The Oregon Department of Transportation (ODOT) sees the Section 130 funds as a means to help reduce the number of accidents on highways. Highway accidents far exceed the 35 to 45 grade crossing accidents experienced each year in Oregon. They find it difficult to rationalize expenditures of $100,000 at a crossing, which may have had one accident in the last ten years. We have seen several years in which up to 40 percent of the funds was used for high hazard elimination projects. During the last federal fiscal year 100 percent of the Section 130 funds was allocated to crossing projects.

In 1973, the State of Oregon established a fund called the State Grade Crossing Protection Account (GCPA). The purpose of this fund was to allow the state to bear part of the cost of crossing safety improvements in Oregon. The law provides for annual allocations of $600,000 from vehicle registration and driver licensing fees. We use the GCPA fund as the 10 percent match to the Section 130, 90 percent federal contribution in qualified crossing safety improvement projects. If a project does not qualify for

federal funding, the GCPA can fund 75 percent of a qualified crossing improvement project. The remaining 25 percent is shared 20 percent railroad and 5 percent public authority.

OTHER REGULATORY CONCERNS

While the OPUC is vested with the authority to close public grade crossings wherever possible, this is a very difficult task. Any crossing, regardless of the volume of highway traffic, is considered essential by its users. In our experience, any individual who uses a crossing believes adamantly that the crossing should remain open. In proposing the closure of an existing grade crossing, we accept that there will most likely be emotional and political opposition.

When we look at the potential of closing a public crossing, we try to address all concerns. We consider the amount of additional out-of-direction travel (circuity [sic]), the impact on emergency services (fire, police, and medical) to the area served by the crossing, and the impact closure will have on businesses. Generally, local politicians feel a need to represent their constituents' interests and oppose crossing closures.

RESPONSIBILITIES FOR CROSSING SAFETY IN OREGON

We believe the regulation and responsibility for public crossings should remain at the state level, not the federal or local level. State oversight provides sufficient insulation from local influences, yet provides expertise

close enough to understand the local nature of any problem. Regulation at the national level is not as responsive to local concerns.

In Oregon, exclusive jurisdiction for construction, alteration, and protection of railroad-highway crossings is the responsibility of the OPUC. This includes authorization of new public crossings and resolving disputes regarding existing public crossings. We also have the responsibility for establishing and maintaining a statewide crossing priority list which allows all crossing safety projects in Oregon to compete equally for public funds.

APPENDIX 18

AFFIDAVIT OF WM. H. WENDLING

STATE OF Virginia)
) ss
COUNTY OF Fairfax)

1. My name is Wm. H. Wendling, and I reside at HCR 71 Box 119, Camdenton, Missouri. I am self-employed as a consulting engineer specializing in roadside safety and crash reconstruction.

2. I completed a B.S. in Civil Engineering from Kansas State University, Manhattan, Kansas, in 1959. I completed several masters level classes in safety and traffic engineering at Northwestern University, Evanston, Illinois. I am a licensed professional engineer in the states of Kansas, Missouri, and Iowa.

3. From November, 1966 until June, 1992, I was employed by the Federal Highway Administration ("FHWA"). I am familiar with the basic organizational structure of the FHWA during this time period as well as the way in which the FHWA administered federal-aid projects and highway safety programs, including the identification and elimination of hazards at railroad crossings. During my tenure at the FHWA, the United States was divided into ten regions. Each regional FHWA office covered specific states, and the FHWA maintained "division" offices in each state. Region 5 covered the states of Nebraska, Missouri, Kansas, and Iowa. The implementation of the various federal-aid programs was based upon the conditions and requirements contained in the federal statutes and regulations that authorized the programs. The objectives, policies and practices of the

FHWA regarding the implementation of the various highway federal-aid programs was intended to be the same in each region and in each state.

4. I was an Area Engineer for the State of Nebraska from November, 1966 until February, 1987. In that position, I was familiar with and responsible for all aspects of the maintenance, engineering, and safety of the federal highway system within the State of Nebraska, including the administration of federal-aid projects and highway safety programs. From February, 1987 until June, 1992, I was the Regional Safety Program Engineer for the states of Kansas, Missouri, Iowa, and Nebraska, which comprised Region 5 of the Federal Highway Administration. As Regional Safety Program Engineer, I was familiar with and responsible for implementing federal highway safety programs in those states and for providing technical advice and training on safety issues.

5. During my tenure with the FHWA, the goals and objectives of the FHWA were communicated to each region through various forms of formal communication from the FHWA and the Department of Transportation in Washington, D.C. These written communications were in various forms, including the "Policy and Procedure Memorandum" ("PPM"), "Instructional Memorandum" ("IM"), Notices, and "Federal-Aid Highway Program Manual" ("FHPM"). It was the responsibility of the FHWA regional and state administrators and engineers to follow the policies, practices, procedures and instructions contained in these communications and directives, which expressed the goals and objectives of the United States Congress and the Secretary of Transportation of the United States Department of Transportation.

6. Prior to the Highway Safety Act of 1973, Congress had appropriated funding for crossing improvement projects to assist the states and the railroads regarding railroad-highway safety matters. However, funding was not available for crossings where the highway or road was "off-system," i.e. not a part of the federal highway system. This meant that there were thousands of railroad-highway crossings across the United States that did not qualify for nor receive federal assistance funds before the 1973 Act.

7. In enacting the Highway Safety Act of 1973, Congress and the FHWA intended and it was the stated goal of Congress that every public crossing in the United States, whether "on" or "off" the federal system, have crossing protection adequate to protect against the risks of that particular crossing. And, it was also the goal of Congress and the FHWA that every public crossing in the United States have a "minimum" level of protection regardless of the particular risks at each of those crossings. The only way to determine the adequacy of a particular crossing protection device for a particular crossing is to perform a site-specific engineering study and evaluation conducted by a "diagnostic team," which customarily is comprised of representatives of the railroad, the governmental agency which had jurisdiction over the road and the state agency, usually a department of transportation, public service commission, which had state responsibility for the crossing.

8. The implementation of the federal government's grade crossing safety program after the enactment of the 1973 Act was in two distinct phases. The first phase involved establishing a minimum level of protection at

every crossing in the United States each crossing, and once that was accomplished, the second phase involved going further and installing active warning devices where it was determined to be necessary by an engineering diagnostic evaluation. In July, 1974, each FHWA region received a copy of Federal-Aid Highway Program Manual, which is commonly known as FHPM 6-8-2-1. A true and accurate copy of FHPM 6-8-2-1 is attached as Exhibit 1. Under paragraph 6b, entitled "Establishment of Priorities", FHWA regional and state administrators and engineers were instructed that the it was immediately necessary to identify crossings which had no protective signs, such as crossbucks, or those which had nonstandard signs, and to insure that all public crossings be provided with signing and marking in compliance with the national standards contained in the Manual on Uniform Traffic Control Devices ("MUTCD"). The MUTCD described signing and pavement markings as "passive" traffic control devices. THE MUTCD, as well as the FHWA's directive in FHPM 6-8-2-1, considered the existence of well-maintained crossbucks to be a "minimum" warning device. The first phase of the grade crossing safety program was commonly known as the "Crossbucks Program" or sometimes referred to as the "Minimum Protection Program".

9. Attached to this Affidavit are copies of three memoranda: Exhibit 2, dated October 8, 1976, Exhibit 3, dated June 11, 1977, and Exhibit 4, dated October, 1978. These three documents are true and accurate copies of memoranda authored by the United States Government and distributed to the Regional Federal Highway Administrators pertaining to "signing and marking all public

railroad-highway grade crossings," which was designated by the government as a "Program Emphasis Area" for Fiscal Year 1977. I received these memoranda in my position as Area Engineer for Nebraska. I have personal knowledge of the policies described in the memoranda for the reason that I had direct responsibility for implementing the program described in these memoranda, which was the "Crossbucks Program" or "Minimum Protection Program."

10. Exhibit 2, dated October 8, 1976, was authored by the Offices of Engineering and Highway Safety and was directed to Regional Administrators of Regions 1 through 10 of the Federal Highway Administration. Each regional office distributed the memorandum to the "divisions" within the region, and as Area Engineer in the Nebraska division office, I received a copy from Region 5. The information contained in the memorandum had been previously available in prior communications to all regions and divisions. It was my understanding that the memorandum was issued because the FHWA was concerned that not enough progress had been made with the "Crossbucks Program" or "Minimum Protection Program."

11. As Area Engineer in charge of the Crossbucks Program for Nebraska, I worked directly with the railroads and with state officials in implementing this program. The railroads were involved with creating an inventory of crossings, including identifying crossings where there were nonstandard signs or no signs. In addition, the railroads performed the work necessary to bring the crossings up to a minimum level of protection, and

the railroads submitted invoices for their labor and materials, which were then reviewed by the states and then reviewed and approved by me. As Area Engineer, it was my understanding that all regions and divisions of the FHWA followed the same basic procedures in the implementation of the Crossbucks Program. In addition, when I was Regional Safety Program Engineer for Region 5 from 1987 until 1992, I had access to information from which I could see that the philosophy and implementation of the Crossbucks Program was the same in Missouri, Kansas, and Iowa as it was in Nebraska.

12. The divisions were encouraged to expedite the Crossbucks Program and to obtain the commitment of the states to provide this minimum level of protection, and this mandate is described in Exhibit 2. I recall hand delivering this memorandum to various state officials and discussing with them how this program would be implemented. In some cases, I may have mailed the memorandum to a state official with an attached letter discussing the program. My discussions with state officials included providing them with information regarding the various federal funds available for meeting this minimum requirement, and those funds are listed in Exhibit 2.

13. In addition to establishing a minimum level of protection, division officials of the FHWA encouraged the states, in cooperation with the railroads, to identify crossings that required more than minimum protection, and that information was maintained in the state's inventory of crossings. It was my understanding from the FHWA that Congress intended, in enacting the Highway Safety Act of 1973, that the states continue to evaluate crossings in order to determine the necessity of active warning

devices and the elimination of hazards. However, this second phase of the grade crossing safety program did not necessarily run concurrently with the Crossbucks Program, which commanded the initial efforts required under the 1973 Act to identify crossings which had either no crossbucks or nonstandard crossbucks and to ensure that all crossings had minimum, passive protection. During my tenure as Area Engineer for the State of Nebraska from 1966 until 1987, I was involved in the Crossbucks Program or Minimum Protection Program from its inception in 1973 until its completion in the State of Nebraska. The second phase of the 1973 Act, which was to identify crossings that needed more than minimum protection, continued up to, and was still in progress at, the time that I left my position with the FHWA in 1992.

14. In implementation of the Crossbucks Program, each division was required to submit monthly narrative reports to the FHWA Headquarters of the Office of Engineering and Safety to report on the status and progress of "signing and marking" all public grade crossings, and this requirement is referred to in Exhibit 2. I had this reporting responsibility for the State of Nebraska. Exhibit 3 is a memorandum dated June 11, 1977 to all Regional Federal Highway Administrators regarding deficiencies in the monthly narrative reports of the division officials. I received this memorandum in my capacity as Area Engineer.

15. The purpose of the monthly narrative reports was to show the number of crossings that had received the minimum, passive protection devices – crossbucks and advance warning signs. Exhibit 3 refers to different methods of reporting the data, and both methods

described public roads only. My monthly narrative report referred to "federal aid-system" roads and "off-system" roads, both of which were categories of public roads.

16. Exhibit 4 is a memorandum dated October, 1978 to all Regional Federal Highway Administrators that describes further reporting requirements for the monthly narrative reports. The memo emphasizes in paragraph 1 that the states were to give highest priority to the first phase of the Highway Safety Act of 1973, i.e. the Crossbucks Program.

17. The first phase of the 1973 Act, the Crossbucks Program, did not require nor did it expect that states would conduct diagnostic team evaluations on each crossing. States were simply required to identify crossings which either did not have minimum protection devices, or devices which were nonstandard. Therefore, it became common practice for the states to group large numbers of crossings into specific projects for upgrading with standardized, passive, minimum protection devices. The FHWA understood that the state projects were statewide, "corridor," or "segment" projects, including multiple crossings within each project, and that no specific diagnostic evaluation had been done by the state, the railroad or any local agency for the purpose of determining that the crossbucks were adequate protection for the risks and conditions of each crossing in the project. These large scale projects were meant to satisfy the first phase of the grade crossing safety program of establishing a "minimum level of protection," consisting of reflectorized crossbucks and pavement markings in compliance with the MUTCD, at all public crossings.

18. The second phase of the program, however, did require site-specific engineering evaluations to identify those crossings that required additional crossing protection, i.e. active warning devices such as flashing lights and gates. Prior to the Highway Safety Act of 1973, the FHWA offered assistance to the states and railroads in defining certain types of crossings which, because of specific conditions, required flashing lights and gate signals in order to provide protection adequate for the risks of those crossings. In a Notice dated March 20, 1973 directed to all regions, the FHWA encouraged the use of "automatic gates" at crossings and referred to PPM 21-10, a 1958 directive that defined certain conditions which required the installation of flashing lights and gates. The 1973 Notice amended this directive and indicated that special consideration should be given to using gates at crossings with the following seven characteristics: (1) high vehicle and train traffic volumes, (2) high train speed, (3) high approach vehicle speed, (4) moderately high combination of volume and speed, (5) usage by school buses and/or vehicles transporting hazardous materials, (6) other high hazard characteristics, such as continuing accident occurrences even though active protection devices are in place (flashing lights without gates), (7) crossings used by through trains where switching operations take place in proximity to the crossing." Attached as Exhibit 5 is a true copy of the 1973 Notice. The seven criteria were amended and codified on April 9, 1975 by the enactment of 23 C.F.R. § 646.214(b)(3)(i).

19. Federal funds were available to assist the states and the railroads in identifying crossings that needed more than the minimum protection afforded by passive

warning devices. The states and railroads requested and received reimbursement for engineering fees to determine the necessity of active warning devices and for the cost of labor and materials to install the active warning devices.

20. While federal funds were available both for the first phase Crossbucks Program or Minimum Protection Program and for the second phase that focused on additional warning protection, the two phases of the program were implemented independently of each other and were based upon completely different criteria and objectives. Approval of funds for the Crossbucks Program by the FHWA did not and was never intended to create a presumption that the FHWA determined that crossbucks were an adequate crossing protection device for the risks and conditions of a particular crossing. The FHWA's Crossbucks Program was focused on establishing a "minimum level of protection," which was never intended as a substitute for adequate protection.

In witness whereof, I place my signature this 15 day of January, 2000.

/s/ Wm. H. Wendling
Wm. H. Wendling, P.E.

Sworn to and subscribed before me this 15 day of January, 2000.

/s/ Eula F. Wolford
Notary Public

My Commission expires: 9-30-2000

EXHIBIT 1

Federal-Aid Highway Program Manual Vol. 6, Chap. 8
Transmittal 39, July 3, 1974 Sec. 2, Subsec. 1
Par. 6a(3)(c)2

2 Other Federal-Aid Routes.

a State system.

b Other (local roads and streets).

3 Non-Federal-Aid Routes.

a State system.

b Other (local roads and streets).

Where functional classification data is available, identification on that basis in addition to the above is desired.

(d) Guidelines to aid in determining the sections of highways to be sampled and making the survey are shown in Attachments 1 and 2.

b. Establishment of Priorities

(1) Railroad-Highway Grade Crossings (Section 203 of the Highway Safety Act of 1973).

(a) Section 203(a) of the Highway Safety Act of 1973 requires as a minimum that each State's schedule of improvements shall provide signs at all crossings. As a first priority each State, in cooperation with the involved railroad and any other agency having jurisdiction, shall identify those grade crossings at which there are either no signs or nonstandard signs and institute an improvement program to provide

signing and pavement marking in compliance with the Manual on Uniform Traffic Control Devices at all grade crossings.

(b) At least one-half of the funds authorized under Section 203 of the Highway Safety Act of 1973 are to be used for crossing warning devices (crossbuck warning signs, advance warning signs, pavement markings, illumination, flashing light signals with or without automatic gates). The remainder may be used for any type of work for the elimination of hazards of railroad-highway grade crossings.

[The remaining exhibits referenced were not legible and therefore were not included.]

APPENDIX 19

Rail-Highway Crossings

There are more than 220,000 public railroad-highway grade crossings in the United States at the present time. Approximately 49,000 of them are located on the Federal-aid system; 170,000 are off of it. Approximately 79,000 crossings are in urban areas; 144,000 are in rural areas. Only 48,500 (roughly 22%) have train-activated protective devices.

Each year some 12,000 motor vehicle-train collisions occur – an average of 32 a day. They result in 1,500 deaths and 7,000 injuries. Over 40% of these accidents happen at crossings where some active protection already exists, indicating that the solution to the grade-crossing problem involves both increasing protection and, where justified, separation or relocation.

The Committee, therefore, recommends that $150 million be authorized for appropriation for fiscal year 1974, and $225 million be provided for each of fiscal years 1975 and 1976 for railroad-highway grade crossing improvements. It is recommended that at least half of the funds should be utilized for installation of signing or train-actuated protection devices. Through such a multi-pronged approach, the Committee intends that every railroad crossing in America will be provided with modern, up-to-date, protection adequate to the risks of each such crossing.

APPENDIX 20

STATE OF NORTH DAKOTA — IN DISTRICT COURT

COUNTY OF PIERCE — NORTHEAST JUDICIAL DISTRICT

Gene Graumann, personally and as Representative of the Estate of Trent J. Graumann, and Theresa Graumann,

Plaintiff,

vs. — File No. 98-C-2020

Burlington Northern Santa Fe Corporation a Delaware corporation d/b/a Burlington Northern & Santa Fe Railway Company; John Doe, Inc; And the Township of Hagel, North Dakota, a political subdivision,

Defendants.

The Deposition of SPENCER D. ARNDT, taken pursuant to Notice of Taking Deposition, taken before Michelle K. Pecharich, Registered Professional Reporter and Notary Public in and for the County of Hennepin, State of Minnesota, taken on the 15th of July, 1999, at 325 Cedar Street, Suite 600, St. Paul, Minnesota, commencing at approximately 9:53 a.m.

* * *

[p. 3] SPENCER D. ARNDT,

the Witness in the above-entitled matter, after having been first duly sworn, deposes and says as follows:

CROSS-EXAMINATION

BY MR. POTTROFF:

Q. Would you state your full name for the record, please.

A. Spencer Donald Arndt.

Q. And where are you currently employed?

A. Burlington Northern Santa Fe Railway Company.

Q. What's the title of your job there?

A. Manager of public projects.

Q. Has that changed from the time that you originally got the position, has the name changed on the job?

A. Not since I acquired the position in '95.

Q. At some point, was that called a coordinator of public projects?

A. Yes, it was.

Q. Would that have been before you took over?

A. Yes.

Q. Okay. Do you know who your immediate successor was to that position?

[p. 4] A. Joe Mooney.

Q. Does Joe still live here in Minnesota?

A. Someplace, yeah.

Q. Have you been in contact with Joe in the last couple of years?

A. No, I've maybe saw him once or twice. Saw him in a parking lot one time, he was going bowling someplace here in the Twin Cities.

Q. Last you knew he was residing in Roseville?

A. Roseville was the last place I know.

Q. And have you had any information come to your attention that would indicate he's moved from here?

A. No.

Q. Before we get too deep into your current position at Burlington Northern Santa Fe, let's talk about your background in railroading. When did you first take any employment, or have any business association with any railroad?

A. 1967, January.

Q. Would that have been after you got out of college?

A. Yes, it was.

Q. What was your degree in?

A. Architectural engineering.

Q. From Chicago Tech?

* * *

[p. 81] BY MR. POTTROFF:

Q. Have you gotten any information from any source that would tell you that those strips have a useful life that's limited?

MR. HILL: Objection to the form of the question.

THE WITNESS: I'd heard there was, I have never researched myself and done anything with it. I've just heard that there is a life, but I don't know what it is.

BY MR. POTTROFF:

Q. Okay. In all your years with the railroad, and you've spent a great number of years actually out in the roadmaster-type position, have you ever known any railroad to check the reflectivity on crossbucks?

A. No.

Q. Now, it's my understanding once those crossbucks are put up by the federal money administered through the state program, they become the property of the railroad?

A. That's correct.

Q. Have you historically worked in a position where you were in charge of either crews or supervisors that had to go out and put back up crossbucks that had been damaged or destroyed or stolen?

* * *

[p. 86] A. That's correct.

MR. HILL: Objection to the form of the question.

BY MR. POTTROFF:

Q. What happens when a crossbuck becomes nonreflective?

A. Don't know, never been involved in determining when one is nonreflective.

Q. That would – that's just never been something that's been a part of your job experience?

A. That's correct.

Q. Has anyone ever gone out and tried to show you how you can use headlights to determine whether a crossbuck is reflective or not?

A. They've never shown me.

Q. Have you seen that before?

A. Sure, I know what reflectivity is on a crossbuck.

Q. In fact, have you seen a old crossbuck put up against one of these new diamond grade crossbucks?

A. No, I've never had that comparison.

Q. Why is it, if you know, that road authorities will put a date on the replacement of signs?

MR. HILL: Objection to the form of the question. He has to speculate on what road authorities do

* * *

[p. 93] Q. Are you aware that they started using reflective materials in their refurbishing of cars?

A. I'm aware there is a program, I'm not aware of the details of the program.

Q. Do you know who – when that started or who would have been the person responsible for starting it?

A. I have no idea.

Q. Are you given any budget at all for the systematic replacement of crossbucks or other signs on the railroad that you feel have had their useful life expire?

A. Any budget dollars for any replacement, anything on a maintenance basis are actually the operating division's, maintenance division's responsibility not – not systems. They – they are responsible for maintenance and replacement, they have the budget to replace things that are knocked down or whatever they need to do.

Q. And those are the types of things we were talking about where sometimes signs will get knocked down, stolen or damaged?

A. Right.

Q. And the maintenance departments have the budget to put them back up, fix them or replace them?

A. That's correct.

Q. What I'm getting at is above and beyond those replacements of damaged signs, is there any policy that [p. 94] would provide for a system – systematic replacement of crossbucks as to if the reflective sheeting on it reached its useful life?

MR. HILL: Objection to the form of the question. You've changed it to now policy, before it was a line item in a budget.

THE WITNESS: No policy I'm aware of.

BY MR. POTTROFF:

Q. Have you ever been given any budget to start doing changes of the oldest reflective sheetings so that they are being changed out on a regular basis?

A. No, because the states have been doing it on their own.

Q. Well, when you say "the states have been doing it," what –

A. They've been ordering the crossbuck programs.

Q. So what the railroad relies upon is that the state will have a new crossbuck program at sometime in the future?

MR. HILL: Objection to the form of the question. Again, I hate to keep reasserting the State and Federal Preemption Doctrine but it must be done in this instance.

THE WITNESS: I don't know. I don't know that. We rely – again, the crossbuck was installed with [p. 95] federal dollars and the program has always seemed to revolve right behind replacement and appeared to be no need to do anything other than they were falling right behind in doing what they originally did in reinstalling.

BY MR. POTTROFF:

Q. So you don't believe, then, the railroad has a duty to maintain the reflective strips?

A. We didn't go out and check the reflectivity on it. So if we obviously were made aware of something, we would replace it.

Q. But as for maintenance to make sure they are reflective, you would never –

A. There was no established program.

Q. Okay.

MR. HILL: As you are pondering your question, do you want to try to have lunch now or do you want to just continue going? Whatever your pleasure is.

MR. POTTROFF: Actually that would be probably – I've got probably an hour left. I hate that because that's 15 minutes beyond when you were supposed to be at your conference call. Is it a conference that you can take and we can take a long enough lunch break?

THE WITNESS: I'll just tell them. Two other guys will be out, I just need to call them and tell them what I want them to cover, that's all.

* * *

[p. 107] Q. To give enough warning to the budget people –

A. Right.

Q. – and their bosses?

A. It's just a matter of programing it out so that it's there.

Q. As I understand, that program does not currently exist, though, where you set a date at which time you initiate changes to –

A. Right.

Q. – crossbucks? Okay. And I'm assuming that's one that you don't have the authority to initiate systemwide as the project manager over five states?

A. I don't know that I have the need to.

Q. Okay.

A. I don't even need to do it.

Q. Can you go out and replace crossbucks in a corridor without federal money?

MR. HILL: Objection to the form of the question, issues of federal preemption play into this, issues of state preemption play in, as well.

THE WITNESS: We would do it on a state basis.

BY MR. POTTROFF:

Q. And if indeed the person that came in and told you, hey, this crossbuck's not reflective anymore, came in [p. 108] and said, a hundred miles of crossbucks is not reflective anymore, same issue, they should be replaced?

A. You have to do something.

Q. Who would you have to get clearance from before you could go replace that many?

A. We'd have to budget funds and people to do it.

Q. That's not something that you are – your budget would handle, either under public projects or local maintenance?

A. It sounds like – what you are describing is more than a maintenance item, it's a – a major crossbuck replacement program, which is what the states do now.

Q. Correct.

A. They do that now for us.

Q. Have you ever had any contact with the township supervisors for Hagel County?

A. Yes, I have.

MR. HILL: Poor Jason, he has one chance, and you got a question.

BY MR. POTTROFF:

Q. What was the circumstances under which you had contact with the Hagel Township personnel?

A. They'd like to close the Main Street crossing.

Q. Main Street crossing in where?

A. Selz.

* * *

APPENDIX 21

AFFIDAVIT
of
ROBERT A. SCHUETZE

STATE OF COLORADO)
) SS AFFIDAVIT
CITY AND COUNTY OF DENVER)

1. My name is Robert A. Schuetze and I am over the age of 18 years. I am a duly licensed and practicing attorney in the State of Colorado. My office and mailing address is: 1600 Broadway, Suite 1600, Denver, CO 80202.

2. In the case of Prescott v. Burlington Northern Railroad Company, et al., District Court, County of Boulder, Colorado, Case No. 83-CV-0884-2, I obtained documents in discovery on behalf of the Plaintiff from the defendant, Burlington Northern Railroad Company. These documents are attached to this affidavit as follows:

Exhibit A. Burlington Northern Inc. Operations Department Circular No. 59.

Exhibit B. Burlington Northern Inc., Engineering Instruction Manual, Section 10.

Exhibit C. Burlington Northern, Letter by Willard L. Peck, Regional Counsel, Regarding 1981 Colorado Legislature, H.B. 1547 – concerning Railroads.

Exhibit D. Burlington Northern Memo, from D.H. Burns, Division Superintendent to W.L. Arntzen.

Exhibit E. Burlington Northern Memo, from W.L. Arntzen W.H. Ferryman, D.H. Burns and W.C. Doney.

3. These documents revealed certain corporate attitudes and beliefs. These documents were introduced into evidence at the trial of the above referenced case. Testimony of management personnel for the Burlington Northern Railroad Company at trial substantiated the corporate policies and attitudes of the railroad as contained in these documents.

VERIFICATION

BEFORE ME personally appeared Robert A. Schuetze who, being first duly sworn upon his oath, says that he is the affiant; that he has reviewed the foregoing statements, and knows the statements made therein to be true and correct to the best of his knowledge and belief.

/s/ Robert A. Schuetze
Affiant, Robert Schuetze

Colorado Bar Number: 8066

SUBSCRIBED AND SWORN to before me this 18th day of November, 1999.

My commission expires: 6-9-00

/s/ Illegible
NOTARY PUBLIC

4-21-72

BURLINGTON NORTHERN INC.
OPERATIONS DEPARTMENT CIRCULAR NO. 59

POLICY ON
PUBLIC GRADE CROSSING PROTECTION

In the interest of safety to the motoring public and its own operations, Burlington Northern will continue to support highway authorities at all levels for projects which reduce the hazards at highway-railroad crossings, and will increase its efforts toward the installation of automatic grade crossing protection where such installations can be justified. Regional Managers Engineering, in coordination with St. Paul Engineering Public Works Planning, will have prime responsibility for promotion and development of crossing safety improvement projects.

All concerned must be alert to the closing and elimination of grade crossings where possible. When improvements to an existing crossing and/or its protection is proposed by a highway authority particular attention must be given to other grade crossings in the area for possible elimination. Grade separations should be promoted if feasible and railway cost participation is consistent with federal aid project guidelines. The modernizing of outdated signals should receive high priority for potential crossing protection improvement projects. Considerations for a complete approach to a grade crossing elimination and crossing protection improvement program should include such fringe factors as corporate speed limits and blocking of crossings.

The motoring public is the principal beneficiary of projects which improve crossing safety, and financial support of such projects should so reflect.

On federal aid highways and secondary state highways utilizing federal funds, cost apportionment is normally on the basis of guidelines set by the Federal Highway Administration, and, in the case of a new crossing, there is no railway participation as the guidelines recognize no railway benefit. New grade crossings will be opposed unless definite need is established.

In most instances railway participation will be from 0 to 10% although in some states where funding is from the Grade Crossing Protection Fund, the assigned railway percentage continues to be greater. While BN will actively promote projects with the authorities having jurisdiction, such promotion must include an educational and selling effort on the relative benefits of the project as between railway and highway toward the end that railway funding does not exceed federal aid guidelines even though federal aid is not used.

Projects relating to the subject of this circular are to be planned for proper budgeting of BN funds and must be covered by authority through normal channels. Procedural handling of these types of projects are included in OD-31. The subject is covered in detail in Section 10 of the Engineering Instruction Manual.

/s/ I. C. Ethington
I. C. Ethington
Vice President, Operations

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* * *

5. g. Billing for work by Railroad forces on Federal Aid, State Aid and/or PSC orders are based upon the agreement or PSC order, and is made periodically by the Accounting Department, as justified by any great expenditures. If progress bills are permitted, generally, they will be on the basis of engineer's estimate of percent work completed. Signal project progress billing is made when signal is placed in service – generally by percent agreed to in the agreement of total estimated cost.

h. Maintenance – we should pursue the direction to seek 100% public funding for installation and maintenance of grade crossing surfacing, grade crossing traffic control systems, overhead separations, and underpass separations except track structure maintenance.

(1) Grade crossings – in general, we are obligated to maintain the roadway over the track or tracks to about 6 inches beyond the ties.

(2) Active traffic control systems – the railway generally assumes maintenance costs, but many states are now participating in these costs on a percentage basis of AAR unit cost. We must pursue this direction to seek 100% AAR unit cost participation in all states.

(3) Separations – we are working toward the principle that the road

authority should maintain all overhead bridges and all underpass bridges (Railroad Bridges) except track structure. Previous obligations or statutes might require railroad participation. We should attempt to change these statutes, especially when these structures come up for renewal or modifications.

* * *

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* * *

3. Flashing light signals are used on two-lane roadway where conditions in (1) are not present.

(Refer to Grade Crossing Protection Guidelines – Section 2).

V. Reimbursement.

A few of the projects are not carried to completion and when this occurs, the Railway Company receives no direct reimbursement. In these instances, however, we are the gainer in that we may have avoided expenditures for installation and maintenance.

The projects that do go forward can generally be classed as a Federal Aid project or a Non-Federal Aid project.

a. Federal Aid projects involve work on Interstate, primary, secondary and urban highways and in these instances we must use Federal Highway Administration Memorandums as guides. PPM 21-10 covers "Elimination of Hazards of Railway-Highway Crossings", PPM 30-3 covers "Reimbursement for Railroad Work", and PPM 20-12 covers "Railway Protective Liability Policy".

   In general, the State Highway Department initiates and carries out projects on Federal Aid routes, however, in some cases the County may have jurisdiction over a few secondary routes.

   The PPM guidelines are rather fair in assignment of Railway Company benefits as, for instance, they do not provide for Railway Company participation in projects involving new roads and assign a maximum of 5% of the cost to the Railway Company if a crossing is eliminated when a new separation is built. The Railway Company need not participate on a signal project on an existing crossing or on a new crossing.

   Reimbursement basis for railway work on Federal Aid projects has been revised to provide for use of General Manager Association (GMA) rates for roadway machines. Improvements are not betterments if required solely for highway changes. (Such as relay through crossing area only). Refer to reimbursement guidelines for use on Federal Aid projects (Attachment #2).

b. Non-Federal Aid projects – we should attempt to use Federal Aid guidelines insofar as possible in connection with Railway

Company participation and reimbursement in any project.

Our participation may be determined for us though application of more restrictive State statutes or where terms of covering ordinances or agreements would govern.

* * *

SUGGESTED GRADE CROSSING PROTECTION GUIDELINES

(For New Installations or
Where Replacements are Involved)

I. *Passive Protection or Non-automatic*

1. Crossbucks – reflectorized.

   Driver determines whether or not there are train movements for which he should stop.

2. Visibility restrictions may not allow the driver to make the proper determination and stop signs could supplement crossbucks. Such use should be restricted to cases where lower vehicular volumes and lower highway speeds are involved. Highway authority is required and they should furnish and place stop signs. In some cases Public Service Commission approval required.

3. Illumination of grade crossing may be desirable, particularly where night trains are involved and if train operations are such as to block crossing through slow speeds or switching operations and where the highway profile is such that opposing

vehicular headlights are visible under or over railroad cars. As such, this should be considered as a roadway lighting project to be installed by the road authority. Refer to AREA Manual Chapter 9, Part 5, for guidance. Illumination should not be used in lieu of installing automatic protection.

II. *Active Protection or Automatic*

1. Where studies indicate the *need* of grade crossing protection beyond that provided by signs or illumination (flood lighting), automatic protection should be installed which will provide advance warning to the motorist of the approach and passage of trains.

2. Train operations and/or signal *controls* should be such as to provide adequate protection and to minimize unnecessary or undue operation of signals. A 20 second minimum warning time is standard. Track circuits, speed and motion detectors and cutouts may be involved.

3. *Types* of automatic protection are wigwags and flashing light signals with or without gate arms. (Cantilevers are of the flashing light type).

4. *Classification* of Signals

   A. *Wigwag*

      Train approach indication given by horizontally swinging disc and a red light enclosed in the disc.

   B. *Flashing Light Signal*

      Train approach indication given by two horizontal red lights flashing alternately at predetermined intervals. (In Minnesota, the

Public Service Commission may also require a rotating stop disc.)

* * *

BURLINGTON NORTHERN

John L. Pilon
Assistant Regional Counsel

James P. Gatlin
Attorney

Willard L. Peck
Regional Counsel

March 11, 1981

Messrs. Samuel R. Freeman
Patrick A. Grant
Michael J. Wadle
Leo S. Altman

Re: 1981 Colorado Legislature
H.B. 1547 – Concerning Railroads

Gentlemen:

Enclosed is a copy of the above bill which would amend the Colorado Public Utility Law relating to grade crossings.

The first substantial change appears on page 2, line 11, where the minimum amount to be paid by a railroad in connection with the installation of signals under the Grade Crossing Protection Fund shall be 50% rather than 10%. The other change is on page 4 relating to the general jurisdiction of the Commission over grade separations, etc., where language is added to require that the railroad

shall pay not less than 50% of the total cost. Under existing law there is no limitation, and the allocation of costs is within the discretion of the Commission.

In addition to Representative Mielke, other sponsors are Representatives Hudson and Reeves, and Senators Schaefer and Nobel.

This is not entirely unexpected since I have had numerous conversations with both Representative Reeves and Senator Nobel on this subject, and this obviously is a result of their concern and an easy way out.

I also have direct information that the Legislative Council has been studying the Nebraska ton mile tax law on railroads, which you will recall that the Attorney General's office several years ago gave an informal opinion that such a tax would be unconstitutional in Colorado.

We will, of course, watch this matter very closely, and I believe we should be ready to present testimony if this bill does get any backing.

It would be appreciated if all concerned could immediately assemble any information that can be used in opposition, and furnish the same to Mr. Witherall for his use in opposing this bill.

Yours very truly,

W. L. Peck
Regional Counsel

WLP:gk
Encl.

cc: Mr. Richard F. Witherall

bcc: Messrs. A. E. Michon
W. L. Arntzem
J. R. Walker
H. C. Kimbrough
W. H. Ferryman
J. E. Daume

My first impression is that our basic argument will be that each crossing presents a different situation, and that discretion should be left to the PUC to determine the percentages to be applied. Obviously there are places where need for signals or grade separations are not needed because of the railroad but because of increased automobile traffic, etc. Any additional arguments would be greatly appreciated.

W.L.P.

Denver, Colorado
March 18, 1981
File: O-410 (D-0318)

Mr. W. L. Arntzen:

Please refer to your letter of March 13, 1981, File 117-2, concerning 1981 Colorado Legislature H. R. 1547 which would amend the Colorado Public Utilities Law relating to grade crossings. We have reviewed the proposed Bill and listed below are arguments we think could be included in our effort to defeat this proposed Bill:

(1) Historically, the railroads were here before the automobile. The automobile was developed after the railroad rights-of-way were

established and, consequently, crossings were put in subsequent to the railroads' inception.

(2) There are more automobiles than trains. Inasmuch, it is more a matter of highway safety and should therefore be paid from highway taxes and not railroad monies.

(3) Disregard for highway laws is the cause for the majority of highway-railroad crossing accidents. Although I do not have the statistics available, it is readily apparent that disregard for present laws and lack of enforcement of present laws contribute to the grade crossing problem.

Although various positions may be taken considering this very important point, it is hoped that the above suggestions will help to defeat the proposed Bill.

/s/ D. H. Burns
D. H. Burns
Division Superintendent

Denver, CO
March 13, 1981

File: 117-2

Betty – Letter on Tape DGA

Messrs. W. H. Ferryman
D. H. Burns
W. C. Doney

Attached is copy of Mr. W. L. Peck's letter of March 11 concerning 1981 Colorado Legislature H.B. 1547 which would amend the Colorado Public Utilities law relating to

grade crossings. We certainly want to do everything we can to defeat this proposed legislation which would compel the railroad to pay 50% of the cost of grade crossing protection and grade separations.

It would be appreciated if you would review the proposed bill and provide any argument that would seem appropriate to use in defeating this proposed bill.

W. L. Arntzen